

Comparative Assessment of the Round Table on Responsible Soy Standard with the Soybean Sustainability Assurance Protocol Criteria

Prepared For

The U.S. Soybean Export Council

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Executive Summary

The Roundtable on Responsible Soy Standard (RTRS) was designed to serve as a certification protocol for soybean producers around the world. Each soy-producing country has been encouraged to develop national criteria based on this standard as the basis for certification in that country. The RTRS is composed of a series of topic-specific Principles and Key Performance Indicators (KPIs), which are the parameters of interest for sustainable production of soybeans. The KPIs should be responsive to the range of the things we care about most. This range should include KPIs from social, ecological, and economic categories. They should also include things that can be managed or changed; they must include processes that move us towards our common goals.

Soybean producers in the U.S. have been developing benchmarks, measurements, and assessments of sustainability KPIs for the past 10 years. This set of sustainability benchmarking and assessment programs has led to significant advancement in production practices and conservation methods. Surveys conducted in 2011 by the National Sustainable Soybean Initiative (NSSI) indicated that U.S. soybean growers have a high rate of adoption of research-based sustainability practices. The Field to Market Alliance for Sustainable Agriculture analyzed environmental KPIs for U.S. soybean production over the past 30 years (1981-2011) and found significant improvements across all KPIs. The United Soybean Board developed a Life Cycle Assessment (LCA) in 2010 for soybeans produced in the US from cradle to farm gate for energy and environmental metrics. These efforts have served as the baseline for development of a national sustainability protocol for U.S. soybeans.

The U.S. Soybean Sustainability Assurance Protocol (SSAP) outlines the national laws, management practices, and processes that ensure continuous assessment and improvement of sustainable soybean production in the U.S. The SSAP outlines an auditing process to ensure compliance with SSAP Directives. This process requires annual internal audits by the producers, which must be submitted to the U.S. Department of Agriculture Farm Service Agency (USDA-FSA) for review and approval before the participant can be included in the group. The process also requires annual third-party audits conducted by the USDA Natural Resources Conservation Service (NRCS) for a percentage of group producers.

A comparison of the Key Performance Indicators (KPIs) of the RTRS and SSAP was conducted to identify the equivalent or related metrics between the two standards, and to evaluate the strengths of the SSAP in comparison to the RTRS. Overall, the SSAP and U.S. regulated practices compared well with the RTRS. The SSAP Directives did not completely meet the requirements of The RTRS; however, there were several SSAP Directives that were more protective than the RTRS principles. Compliance was determined to fall into one of the following categories:

- **Meets Requirements:** The SSAP met the criteria specified by the RTRS Principle
- **Substantively Meets Requirements:** The SSAP met the intent of the RTRS Principle, but through different metrics
- **Partially Meets Requirements:** The SSAP met some but not all of the explicit criteria specified in the RTRS Principle
- **Does not Meet Requirements:** The SSAP did not meet the criteria specified by the RTRS Principle

All five RTRS principles were addressed in the SSAP at some level. The SSAP Directives meet, substantially meet, or partially meet 84 of the 98 elements of the RTRS. The RTRS Principles that were not met by the SSAP and U.S. regulations included KPIs within Principles 1.3 (Continual Improvement), 2.1 (Responsible Labor), 2.4 (Collective Bargaining), 2.5 (Work Week and Overtime), 3.2 (Traditional Land Users), 3.4 (Local Employment Opportunities), 4.2 (Burning), 4.3 (Recording Fuel Use), and 5.9 (Chemical Application). There were strong U.S. initiatives in place to meet most of these Principles, but regulations did not mandate exact compliance with each Principle, or producers were not required to maintain the same records mandated by the RTRS. The 14 elements that were not compliant were predominantly associated with communication process rather than activity on the field.

The RTRS Principles considered as Substantively Met included KPIs within Principles 1.3 (Continual Improvement), 2.5 (Work Week and Overtime), 3.1 (Community Relations), 3.3 (Resolving Complaints), 4.3 (Recording Fuel Use), 4.5 (Biodiversity), 5.1 (Water Quality), 5.2 (Natural Vegetation), 5.3 (Soil Quality), 5.4 (Phytosanitary Impacts), 5.5 (Agrochemicals), and 5.7 (Biological Control Agents). The RTRS Principles considered as Partially Met included KPIs within Principles 4.2 (Burning), 5.9 (Chemical Application), and 5.10 (Production Coexistence).

The SSAP Directives that were not met by RTRS Principles included thirteen KPIs within Directives 1 (Biodiversity and High Carbon Stock Production) and 4 (Continuous Improvement). Seven SSAP Directive elements not met by RTRS were primarily associated with measurements and implementation of wildlife conservation practices. The SSAP Directives considered as Partially Met included ten KPIs within Directives 1 (Biodiversity and High Carbon Stock Production), 3 (Public and Labor Health and Welfare), and 4 (Continuous Improvement). The SSAP Directives considered as Substantively Met included six KPIs within Directives 1 (Biodiversity and High Carbon Stock Production), 2 (Production Practices), and 4 (Continuous Improvement).

Introduction

Soybean yields in the US have grown more than 40 percent since 1960, and are expected to exceed 44.5 bushels per acre in 2013 (Figures 1 and 2) (WASDE, 2013). Farmers in the United States produced 3.056 million bushels of soybeans on 75 million acres of land in the 2011-12 production cycle, worth more than \$35.7 billion (SoyStats, 2012). US production of soybeans represented over 33 percent of global production and 37 percent of global trade (Figure 3), in spite of the record drought that year that resulted in yields of only 39.6 bushels per acre, lower than any year since 2003 (USDA, 2013). US soybean producers are critical for the safe, secure, and stable global supply of oilseed, exporting 1.275 billion bushels worth more than \$21.5 billion, primarily to China, Mexico, Japan and Indonesia (SoyStats, 2012).

Figure 1. US Soybean Yield 1960-2012

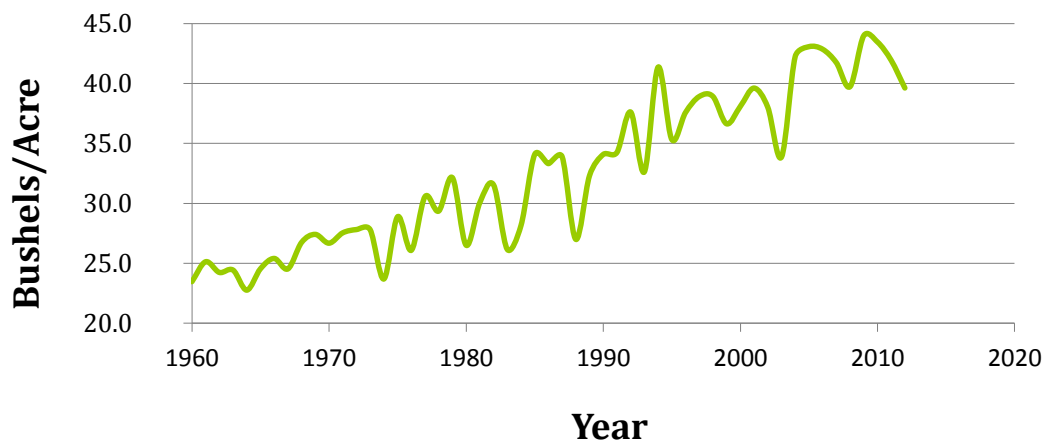
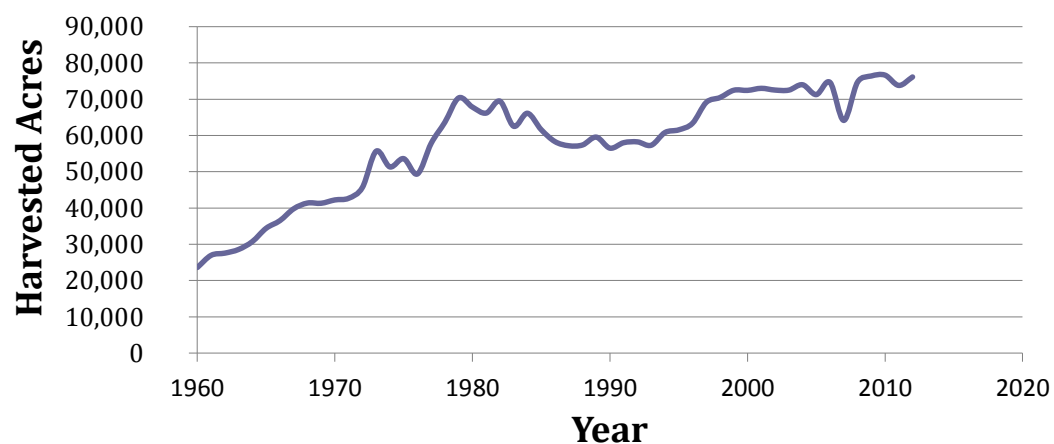
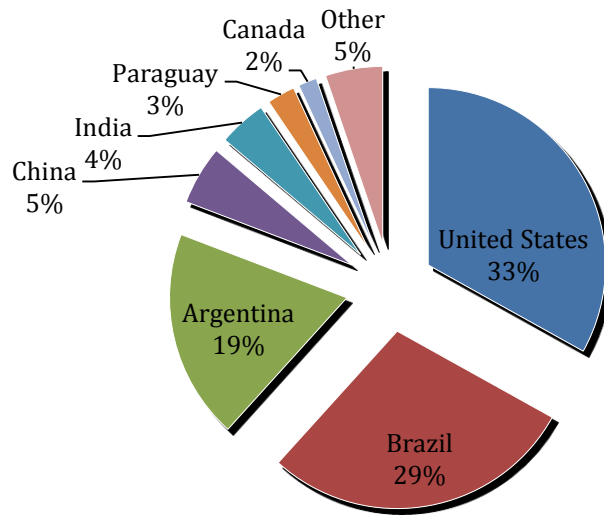


Figure 2. US Soybean Harvested Acres 1960-2012



**Figure 3. Global Soybean Production By Region
(modified from SoyStat, 2012)**



The U.S. Soybean Export Council produced the U.S. Soybean Sustainability Assurance Protocol (SSAP), which outlines the certified aggregate approach to ensure sustainable soybean production at a national scale. The SSAP outlines the regulations, processes, and management practices required for sustainable soybean production, as well as audit procedures to ensure compliance. The U.S. soybean producer sustainability program includes the SSAP and a national measurement system of the positive environmental outcomes by producers.

Agriculture producers in the US have been developing a range of sustainability benchmarking and assessment programs over the past ten years. National soybean producer performance was documented in the Field to Market report “Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States” from December 2012 (Field to Market Report), and the “Life Cycle Impact of Soybean Production and Soy Industrial Products” released in February 2010 (soybean LCA). The National Sustainable Soybean Initiative (NSSI) was initiated in 2011 to create a coordinating national framework for assessing and communicating sustainability achievements by US soybean producers across the supply chain. NSSI issued a report on sustainability practices from US producers in 2011 (University of Wisconsin College of Agricultural and Life Sciences, <http://soybean.uwex.edu>).

The Field to Market Report analyzed U.S. trends over time for each indicator for corn, cotton, rice, soybeans, and wheat from 1980-2011. Environmental indicators included land use, soil erosion, irrigation water applied, energy use, and greenhouse gas emissions. Socioeconomic indicators included debt/asset ratio, returns above variable costs, crop production contribution to national and state gross domestic

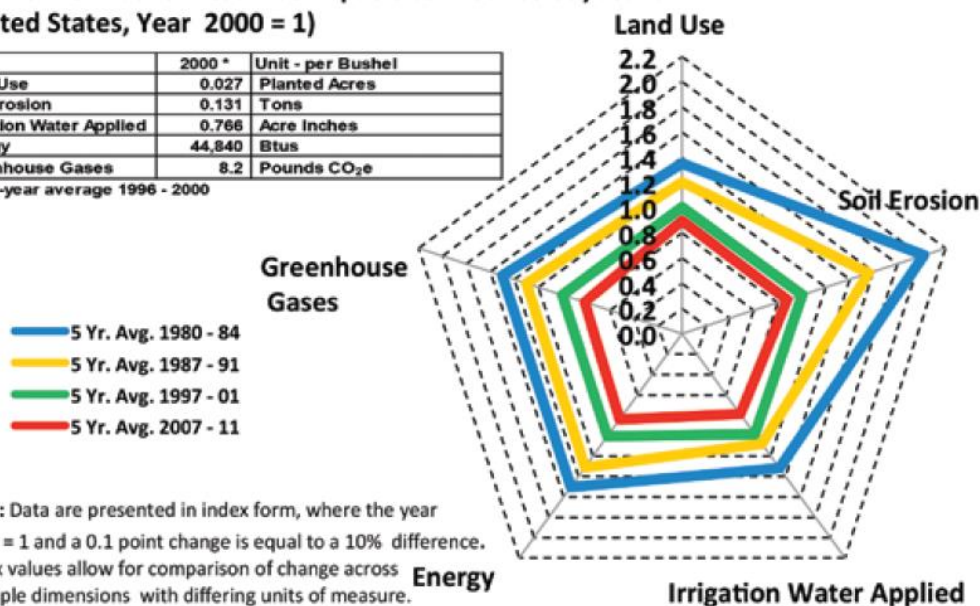
product, non-fatality injury, fatality, and labor hours. Results of this national-scale assessment, based on publically available data, suggested that soybean land use (land area required to produce a bushel of soybeans) decreased 35 percent, soil erosion decreased 66 percent, irrigation water decreased 42 percent, energy use decreased 48 percent, and greenhouse gas emissions decreased 49 percent (Figure 4).

Figure 4. Field to Market Assessment of US Soybean Environmental Impacts from 1980-2011.

**Index of Per Bushel Resource Impacts to Produce Soybeans
(United States, Year 2000 = 1)**

Year	2000 *	Unit - per Bushel
Land Use	0.027	Planted Acres
Soil Erosion	0.131	Tons
Irrigation Water Applied	0.766	Acre Inches
Energy	44,840	Btus
Greenhouse Gases	8.2	Pounds CO ₂ e

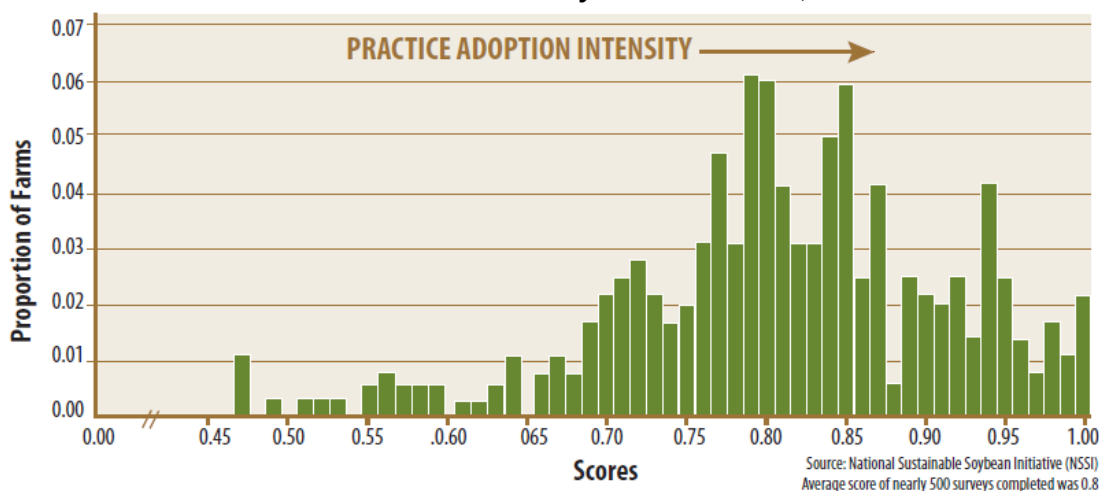
* Five-year average 1996 - 2000



The soybean LCA was created using current data on raw materials, energy, and processing aids used, as well as energy outputs associated with production. The updated data sets for soy production and conversion of soybean oil and meal into key soy-derived feedstocks used in fuel and industrial products were placed into the U.S. Life Cycle Inventory Database, managed by the Department of Energy's National Renewable Energy Laboratory (NREL) and the USDA National Agricultural Library Digital Data Commons.

The NSSI surveyed more than 500 soybean growers in Illinois and Wisconsin to determine the rate of adoption of research-based sustainability practices. They found that 91 percent of producers used conservation tillage (low or no-till practices) to insure at least 30 percent ground coverage; 90 percent of growers used practices to limit soil compaction; 86 percent used soil sampling to determine nutrient levels in soil for nutrient application; 90 percent used energy conservation practices, and 79 percent grew multiple crops on their farms (Figure 5).

Figure 5. NSSI Survey Results of Sustainability Practice Adoption Rates from Wisconsin and Illinois Soybean Growers, 2011.



The Round Table on Responsible Soy Association (RTRS) published a Standard for Responsible Soy Production in 2010 as part of a global certification strategy for soybeans and soy products across the global supply chain. The RTRS encouraged soy-producing countries to make a national interpretation of the standard as a basis for certification of soy production in their country, to be endorsed by the RTRS. The RTRS required that these national interpretations be equally or more stringent than the International RTRS Standard.

The purpose of this report was to evaluate each of the Key Performance Indicators (KPIs) within the Directives and Principles of the SSAP and the RTRS to identify the equivalent or related metrics between the two standards, and to evaluate the strengths of the SSAP in comparison to the RTRS. The report is organized in the order of the RTRS principles, followed by a summary of the SSAP Directives that are more stringent than, or are not met by RTRS principles.

RTRS Principle 1

Legal Compliance and Business Practices

RTRS Principle 1.1 deals with “awareness of, and compliance with,” applicable legislation. The RTRS breaks this into two key performance indicators, 1.1.1 and 1.1.2, which are both met by the SSAP Audit Procedures.

RTRS Principle 1.1.1 requires that producers can show awareness of all of their responsibilities according to applicable laws. SSAP Audit Procedure 1 meets this by requiring producers to conduct an annual internal audit of compliance and submit documentation to the U.S. Department of Agriculture Farm Service Agency (USDA-FSA). This procedure requires producers to demonstrate that they are following (and thus aware of) all of the applicable legal responsibilities. RTRS 1.1.2 requires that all applicable laws are complied with. SSAP Audit Procedure 2 requires random third party audits of at least 5% of producers annually to verify the validity of the internal audits. Producers can also be subject to external audits from the Occupational Safety and Health Administration (OSHA), the U.S. Department of Agriculture (USDA), the U.S. Environmental Protection Agency (US EPA), or the U.S. Food and Drug Administration (FDA). This process will add credibility to the auditing process and help to ensure that all applicable laws are being complied with. Although SSAP addresses these issues through procedures and RTRS addresses them through mandates, both performance indicators have the common goal of enforcing applicable laws and regulations.

1.1 There is awareness of, and compliance with, all applicable local and national legislation.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
1.1.1 Awareness of responsibilities, according to applicable laws can be demonstrated.	SSAP Audit Procedure 1 requires producers to conduct an annual internal audit of compliance and submit documentation to USDA-FSA. Procedure 2 requires random third-party audits of at least 5% of producers annually. Additional audits may be conducted by USDA on any producer of questionable compliance.	Federal Laws are available online (usda.gov, nracs.gov). Other applicable sites for online resources are listed in the SSAP appendix.	Meets requirements. Compliance with regulations demonstrates awareness. Compliance is required and inspections occur for payment of program funds.
1.1.2 Applicable laws are being complied with.	Annual audit is required of producers with third party independent audits conducted at random.	Producers can be subject to external audits from OSHA, USDA, US-EPA, or the FDA.	Meets requirements. The SSAP audit procedures along with potential audits by other federal agencies should help ensure that producers are in compliance with state and federal regulations.

RTRS Principle 1.2 requires that “legal use rights to the land are clearly defined and demonstrable.” Key indicator 1.2.1 states that to fulfill principle 1.2, producers must have documented evidence of their right to use the land (through document of ownership, a rental agreement, a court order, etc.). Though there is no SSAP statute that directly meets this, federal laws regulate land use rights. Common law is the main property system in the US, and is used by 41 states. Under this system land ownership deeds must be filed at the county and/or state level. Property rights are enforced across the nation, usually by states. The Federal Land Policy and Management Act (1976) protects public lands from private use. Federal tax forms require information regarding land ownership or lease information from producers. The SSAP does not need a matching indicator for RTRS principle 1.2 because federal laws already enforce this concept.

1.2 Legal use rights to the land are clearly defined and demonstrable

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>1.2.1 There is documented evidence of rights to use the land (e.g. ownership document, rental agreement, court order etc.).</p> <p>Note: Land use rights of traditional land users are considered in Criterion 3.2 which should be cross-referenced with this criterion.</p>	Not directly addressed	Common law is the main property system in the US, and is used by 41 states. Land ownership deeds must be filed at the county/state level. Property rights are enforced across the nation, usually by states. The Federal Land Policy Management Act protects public lands.	Meets requirements. There are federal regulations to prevent the use of land without proof of ownership or a lease agreement. Producers are not likely to invest the infrastructure and labor required to grow soybeans on land they do not have rights to or where their investment is at risk.

RTRS Principle 1.3 requires continual improvement by producers of at least one aspect of production. There are three key indicators for this: **1.3.1** states that a review process must be carried out to identify the various aspects of the operation that should be improved; **1.3.2** requires that various indicators for measurement and a baseline to monitor improvement be created for whichever problematic aspect from 1.3.1 the producer chooses; and **1.3.3** requires monitoring and enforcement of continual improvement of this aspect. This method places the responsibility of improvement on the producer. The comparable SSAP regulations can be found in Directive 4 which mandates establishment of various regulated conservation programs and technology transfer programs with the goal of improving various aspects of American soy production. Many of these programs (The Conservation Reserve Program, Conservation Stewardship Program, Environmental Quality Incentive Program, Agriculture Water Enhancement Program, and the Wildlife Habitat Incentive Program) are voluntary conservation programs which provide financial incentives to producers who follow their regulations. The SSAP works towards continual improvement through voluntary programs which reward producers for conservation practices. This system allows producers to choose their continual improvement indicators, as the RTRS allows, but there is no mandate requiring producers to participate in one of these programs. Other programs (Cooperative Conservation Partnership, Conservation Effects Assessment Project, National Sustainable Soybean Initiative regional Best Management Practices, and the Technology Transfer of Best Management Practices) help research environmental impacts and develop best management practices and ensure their availability to producers. These actions prescribed by the SSAP will improve soy production practices overall in the United States, but they do not mandate continual improvement by each individual producer. Continual improvement is recorded and monitored at the national or group level. The Guidance provided with the RTRS (Annex 1) states “it is recognized that sometimes there may not be improvement for specific continual improvement indicators due to circumstances beyond the control of the certificate holder.”

1.3 There is continual improvement with respect to the requirements of this standard.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
1.3.1 A review process is carried out which identifies those social, environmental and agricultural aspects of the operation (on and off farm) where improvement is desirable.	Directive 4 encourages participation in existing federal volunteer incentive programs to create programs to improve production practices & reduce environmental impacts. Directive 4.8 explicitly commits that The National Sustainable Soybean Initiative will develop Best Management Practices (BMP) by region and determine BMP adoption rates . There is no mandated requirement, but at least seven programs encourage participation with financial incentives.		Does not meet requirements. A lack of a mandate means that many producers will not choose to participate in these programs. The existing programs do not address the social aspects of the operation.
1.3.2 A number of indicators are selected and a baseline is established to be able to monitor continual improvement on those aspects where desired improvements have been identified. (indicators chosen by producer)	The Field to Market Report and the Life Cycle Impact report provide a baseline for many environmental and socioeconomic aspects of soybean production in the U.S.		Substantively Meets. The RTRS considers farms on an individual basis while the SSAP is creating programs for improvement of all US farms by providing information on best practices and technology for improvement of U.S. soybean production.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
1.3.3 The results of monitoring are reviewed and appropriate action is planned and taken when necessary to ensure continual improvement.	Directive 4 encourages participation in existing federal and state volunteer incentive programs. These programs include monitoring and auditing requirements. Directive 4.13, titled “Development of Additional Performance Metrics” recommends that “raw data used to provide aggregated national data can be scaled down to state, or even district level crop reporting. Additional information is available to customers of U.S. soy willing to collaborate on development of quantifying smaller scale sustainability metrics.” This is not a certification criteria, but provides a framework for a regional certification framework.		Substantively Meets. The goal of Continual improvement is met through volunteer programs, which require monitoring and review.

RTRS Principle 2

Responsible Labor Conditions

RTRS Principle 2.1 bans the use of child labor or forced labor and prohibits discrimination and harassment.

Indicator **2.1.1** bans the use of forced, bonded, involuntary labor in any stage of production. Though there is no SSAP mandate, the US government has signed the International Labor Organization's Abolition of Forced Labor Act (1957) and the Victims of Trafficking and Violence Protection Act (2000), which ban forced labor. This also meets the requirements of indicator **2.1.3**, which states that spouses and children of contracted workers are not obliged to work as well, a situation that falls under forced labor.

Indicator **2.1.2** prohibits required holding of identity papers, salary, benefits, or property of workers with third parties unless permitted by law. Though no part of the SSAP matches this mandate, the Immigration and Nationality Act (INA) (1952), section 218 prohibits employers from withholding identity papers of immigrants. The documents of U.S. citizens (birth certificates, drivers licenses, passports, etc.) can be accessed locally, making the holding of documents less of a concern. SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) (1983) which requires employers to keep records of each employee's name, permanent address, and Social Security number, the basis on which wages are paid, the number of piecework units earned (if paid on a piecework basis), number of hours worked, total pay period earnings, specific sums withheld (and the purpose of each sum withheld), and net pay. This prevents employers from withholding salary or benefits beyond legal withholdings. Federal and state larceny, theft, and unlawful taking laws could apply to the holding of an employee's property.

Indicator **2.1.4** states that minors do not conduct hazardous work. SSAP directive 3.4 requires producers to comply with the Fair Labor Standards Act (FLSA) (1958), which prohibits workers younger than 16 years of age from doing any work deemed hazardous (subpart e-1 of part 570 of title 29 of the code of federal regulations). Though it is not listed in the SSAP, the US is also signatory to the ILO Worst Forms of Child Labor Act (1999), which prohibits workers less than 18 years of age to perform potentially harmful work, though under strict conditions workers of just 16 can perform hazardous tasks. The FLSA and Worst Forms of Child Labor Act mandate that no workers under 16 perform hazardous tasks, and any workers between the ages of 16 and 18 perform hazardous tasks except under strict conditions to decrease the risk to the minor.

Indicator **2.1.5** states that persons under 15 do not carry out productive work, but may accompany their family in the field if it does not expose them to hazardous or unhealthy situations and their schooling is not interfered with. The FLSA prohibits

the employment of children under the age of 16 during school hours, but with a signed document from their parents or guardians, children as young as 12 can be employed outside of school hours so long as they are not exposed to hazardous conditions. Both the SSAP and RTRS conditions require that work does not interfere with schooling or expose children to unsafe or unhealthy conditions, but the RTRS principle says that no children under the age of 15 can carry out productive labor whereas the SSAP allows children as young as 12 to be hired outside of school hours with parental permission.

Indicator **2.1.6** states that there shall be no engagement in or tolerance of discrimination in any form. Directive 3.5 of the SSAP mandates that producers must comply with the Federal Equal Employment Opportunity Laws (EEO), which ban employment and pay discrimination based on race, color, religion, sex, pregnancy, national origin, religion, age, disability, or genetic information. The US Equal Employment Opportunity Commission (EEOC) enforces this group of laws, which include The Civil Rights Act (1964), the Equal Pay Act (1963), the Age Discrimination in Employment Act (1967), and the Americans with Disabilities Act (1990).

Indicator **2.1.7** requires that workers receive equal remuneration for work of equal value and have equal access to training, benefits, and promotion. The EEO (SSAP directive 3.5) bans discrimination with regards to recruiting, hiring and promotion, transfer, work assignments, performance measurements, the work environment, job training, discipline and discharge, wages and benefits, or any other term, condition, or privilege of employment. Both the SSAP and the RTRS have regulations to fight discrimination in the various aspects of employment.

RTRS indicator **2.1.8** states that workers must not be subject to “corporal punishment, mental or physical oppression or coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation.” Though there is no SSAP regulation regarding this, title 7 of the Civil Rights Act prohibits sexual discrimination, which includes sexual harassment. Federal and state laws also prohibit assault and battery, which corporal punishment would fall under.

2.1 Child labor, forced labor, discrimination & harassment are not engaged in or supported

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.1.1 No forced, compulsory, bonded, trafficked or otherwise involuntary labor is used at any stage of production.		The US has signed the ILO's Abolition of Forced Labor, and the Victims of Trafficking and Violence Protection Act.	Meets requirements through established federal laws.
2.1.2 No workers of any type are required to lodge their identity papers with anyone and no part of their salary, benefits or property is retained, by the owner or any 3rd party, unless permitted by law.	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) which requires employers to keep records of each employee's information, wage, payment and withholding information.	Employers are prohibited from withholding identity papers according to section 218 of the Immigration and Nationality Act (INA). Personal property laws, theft, larceny, and unlawful taking laws could apply to the unlawful retaining of property.	Meets requirements. The MSPA requires that employers keep and maintain records of any withheld funds for three years. This should prevent illegal withholdings. The INA protects employees' identity papers.
2.1.3 Spouses and children of contracted workers are not obliged to work on the farm.	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) which requires employers to clearly outline employment terms	ILO abolishes forced labor.	Meets requirements. The ILO prohibits forced labor and MSPA requires employers to clearly outline employment terms. This ensures that family members of the employee are not obligated to work.

2.1.4 Children and minors (below 18) do not conduct hazardous work or any work that jeopardizes their physical, mental or moral well being.	SSAP directive 3.4 requires that producers comply with the FLSA which requires a minimum age of 16 years for any agricultural labor which the Secretary of Labor finds and declares to be particularly hazardous.	ILO Worst Forms of Child Labor mandates against children performing any labor that could be potentially harmful. The minimum wage for this is 18, 16 under strict conditions.	Meets requirements. The ILO Worst Forms of Child Labor act prohibits minors from performing potentially hazardous jobs.
2.1.5 Children under 15 (or higher age as established in national law) do not carry out productive work. They may accompany their family to the field as long as they are not exposed to hazardous, unsafe or unhealthy situations and it does not interfere with their schooling	SSAP directive 3.4 requires that producers are in compliance with Fair Labor Standards Act.	The Fair Labor Standards Act prescribes standards for basic minimum wage and prohibits the employment of children under the age of 16 during school hours. Ages 14 & 15 can work outside of school hours. Ages 12 & 13 may work outside of school hours with a signed document from parents.	Does not meet requirements. Federal regulations allow children as young as 12 (under certain circumstances) to carry out labor, but does rule that no one under 16 can work during school hours.
2.1.6 There is no engagement in, support for, or tolerance of any form of discrimination.	Directive 3.5 mandates that producers are in compliance with Federal Equal Employment Opportunity Law which bans discrimination.	The US Equal Employment Opportunity Commission (EEOC) enforces federal laws that make job discrimination based on race, color, religion, sex, pregnancy, national origin, religion, age, disability, or genetic information illegal.	Meets requirements. The United States has the appropriate federal regulations in place to prevent discrimination.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.1.7 All workers receive equal remuneration for work of equal value, equal access to training and benefits and equal opportunities for promotion and for filling all available positions.	Directive 3.5 mandates that producers are in compliance with Federal Equal Employment Opportunity Law.	The Federal Equal Employment Opportunity Law bans discrimination with regards to recruiting, hiring and promotion, transfer, work assignments, performance measurements, the work environment, job training, discipline and discharge, wages and benefits, or any other term condition or privilege of employment.	Meets requirements. The mandate against discrimination in the Federal Equal Employment Opportunity Law includes wages, promotion, and training.
2.1.8 Workers are not subject to corporal punishment, mental or physical oppression or coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation.		Title 7 of the Civil Rights act prohibits sexual discrimination which includes sexual harassment. The majority of the country follows common law which prohibits assault and battery, the states that don't follow common law have their own versions of this.	Meets requirements. Common law defines these actions as assault and perpetrators are subject to civil or criminal liability.

RTRS Principle 2.2 requires that all “workers, directly and indirectly employed on the farm, and sharecroppers, are adequately informed and trained for their tasks and are aware of their rights and duties.”

Indicator **2.2.1** states that all workers and employees must have a written contract in a language they can understand. SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) sections 500.60, 500.75, and 500.76 of which require that contracts be provided in English, Spanish, or whatever language may be applicable.

Indicator **2.2.2** states “Labor laws, union agreements or direct contracts of employment detailing payments and conditions of employment (e.g. working hours, deductions, overtime, sickness, holiday entitlement, maternity leave, reasons for dismissal, period of notice, etc.) are available in the languages understood by the workers or explained carefully to them by a manager or supervisor.” The MPSA (directive 3.7 of the SSAP) requires that terms of employment be stated in the contract that must be provided in a language understood by the worker, as well as requiring the posting of documents that explain worker rights in a language that employees understand.

Indicator **2.2.3** requires that “adequate and appropriate training and comprehensible instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers,” is also met by the MPSA requirement that posters stating workers’ rights be posted in a language that employees understand.

2.2 Workers, directly and indirectly employed on the farm, and sharecroppers, are adequately informed and trained for their tasks and are aware of their rights and duties.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.2.1 Workers (including temporary workers), sharecroppers, contractors and subcontractors have a written contract, in a language that they can understand. (if illiterate other methods)	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).	The Migrant and Seasonal Agricultural Worker Protection Act (MSPA) requires that contracts be provided in English, Spanish, or whatever language may be applicable.	Meets requirements. Terms of employment must be made clear to the employee in a language they understand.
2.2.2 Labor laws, union agreements or direct contracts of employment detailing payments and conditions of employment (e.g. working hours, deductions, overtime, sickness, holiday entitlement, maternity leave, reasons for dismissal, period of notice, etc.) are available in the languages understood by the workers or explained carefully to them by a manager or supervisor.	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).	The Migrant and Seasonal Agricultural Worker Protection Act (MSPA) sections 500.60, 500.75, and 500.76 require that contracts must be provided in English, Spanish, or whatever language may be applicable.	Meets requirements. Terms of employment must be made clear to the employee in a language they understand.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.2.3 Adequate and appropriate training and comprehensible instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers.	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA)	The Migrant and Seasonal Agricultural Worker Protection Act (MSPA) section 500.75 requires that posters stating workers' rights be posted in a language that employees understand.	Meets requirements. The posters provided outline rights provided by the MSPA.

RTRS principle 2.3 mandates a safe and healthy workplace.

Indicator **2.3.1** requires that producers and employees “demonstrate an awareness and understanding of health and safety matters.” SSAP directive 3.6 requires that producers be in compliance with the Occupational Safety and Health Act (OSHA)(1970), which requires employers to provide a safe workplace. The act makes employers responsible for providing safety training, posting the OSHA poster informing employees of their rights and responsibilities, and using color codes, posters, labels or signs to warn employees of potential hazards.

RTRS indicator **2.3.2** requires that “relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored.” OSHA (SSAP directive 3.6) states that employers must ensure that workplace conditions meet applicable OSHA standards and those with hazardous chemicals in the workplace must have a written plan to address hazards, train employees in the proper handling, and maintain data sheets to identify and protect against health hazards.

Indicator **2.3.3** states “potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks.” This is met by directive 3.1 of the SSAP, which requires that producers comply with the EPA Worker Protection Standard (EPA-WPS) (1995), which requires that employees handling equipment and chemicals be properly trained and capable.

Indicator **2.3.4** requires that “adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide handling and application and mechanized or manual operations.” The EPA-WPS (SSAP directive 3.1) requires that employees handle equipment and chemicals according to federally regulated use directions on the packaging.

Indicator **2.3.5** requires a system of warnings before legally permitted sanctions for workers who do not meet safety requirements. OSHA (directive 3.6) states “Employees must comply with all rules and regulations which are applicable to their own actions and conduct.” Though there are not sanctions in place to enforce this, employees can be fired for noncompliance with safety regulations and employers are at risk when employees don’t follow OSHA regulations.

Indicator **2.3.6** requires producers to have accident and emergency procedures in place and ensure that all workers understand the procedures. OSHA (SSAP directive 3.6) requires employers to have emergency medical assistance and plans and also provides informational material on safety to be posted in the workplace.

Indicator **2.3.7** states “In case of accidents or illness, access to first aid and medical assistance is provided without delay.” OSHA (SSAP directive 3.6) requires employee access to nearby hospital, clinic or doctor or trained onsite staff and first-aid kit in case of emergency.

2.3 A safe and healthy workplace is provided for all workers

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.3.1 Producers and their employees demonstrate an awareness and understanding of health and safety matters.	Directive 3.6 of the SSAP requires that producers are in compliance with Occupational Safety and Health Act.	OSH law requires employers to provide a safe workplace. Responsibilities include providing safety training, posting the OSHA poster informing employees of their rights and responsibilities, and using color codes, posters, labels or signs to warn employees of potential hazards.	Meets requirements. Employers are required to post appropriate information regarding health and safety for their employees.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.3.2 Relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored.	Directive 3.6 of the SSAP requires that producers are in compliance with Occupational Safety and Health Act.	OSHA – employers must ensure that workplace conditions meet applicable OSHA standards and those with hazardous chemicals in the workplace must have a written plan to address hazards, train employees in the proper handling, and maintain data sheets.	Meets requirements. OSHA requires that employers have plans in place to ensure worker safety.
2.3.3 Potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks.	Directive 3.1 of the SSAP requires that producers comply with the EPA Worker Protection Standard which requires that employees handling equipment and chemicals must be properly trained and capable.	OSHA requires that employers provide medical examinations and training when required by OSHA standards. Employers must ensure the availability of medical personnel for advice and consultation on matters of plant health.	Meets requirements. The EPA WPS enforces the competence of workers carrying out hazardous tasks. Medical advice and consultation requirements ensure that hazardous task workers are capable and free of health risks.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.3.4 Adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide handling and application and mechanized or manual operations.	Directive 3.1 of the SSAP requires that producers comply with the EPA Worker Protection Standard.	The EPA Worker Protection Standard requires that employees handling equipment and chemicals must follow label directions.	Meets requirements. The EPA WPS requires that employees follow federally regulated safety directions on pesticide packages.
2.3.5 There is a system of warnings followed by legally-permitted sanctions for workers that do not apply safety requirements.	Directive 3.6 of the SSAP requires that producers are in compliance with the Occupational Safety and Health Act (OSHA).	The OSHA Act states "Employees must comply with all rules and regulations which are applicable to their own actions and conduct." There are no sanctions to enforce this, but employers are at risk when employees ignore OSHA regulations, so employees can be fired for noncompliance with safety rules.	Meets requirements. Employers are responsible for ensuring that their employees follow regulations. Producers whose employees don't follow regulations can be fined, thus it is important to employers to enforce safety regulations.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.3.6 Accident and emergency procedures exist and instructions are clearly understood by all workers.	Directive 3.6 of the SSAP requires that producers are in compliance with the Occupational Safety and Health Act.	The Occupational Safety and Health Act requires employers to have an emergency action plan when an OSHA standard requires one. Plans must be in writing and kept in the workplace and available to employees.	Meets requirements. OSHA requires emergency action plans and provides informational material to employers for posting.
2.3.7 In case of accidents or illness, access to first aid and medical assistance is provided without delay.	Directive 3.6 of the SSAP requires that producers are in compliance with Occupational Safety and Health Act (OSHA) Directive 3.1 states that workers comply with EPA Worker Protection Standard (EPA WPS)	OSHA requires access to a nearby hospital, clinic or doctor or trained onsite staff and first-aid kit and EPA WPS requires that transportation to a medical care facility be available to injured or poisoned workers or handlers.	Meets requirements. OSHA requires emergency medical assistance be available to employees, and the EPA WPS requires transportation to a medical care facility if needed.

RTRS principle 2.4.1 focuses on freedom of association and collective bargaining rights.

Indicator **2.4.1** requires the “right for all workers and sharecroppers to establish and/or join an organization of their choice,” and **2.4.2** requires that “the effective functioning of such organizations is not impeded. Representatives are not subject to discrimination and have access to their members in the workplace on request.”

Indicator **2.4.3** requires that “all workers have the right to perform collective bargaining.” There are no SSAP mandates to meet any of these requirements. The National Labor Relations Act (1935) and Labor-Management Reporting and Disclosure Act (Landrum-Griffin Act) (1959) give collective bargaining rights to employees, but they specifically exclude agricultural workers. Any right to unionize is given by the states, but only nine US states have such laws in place. Arizona, California, Maine, Oregon, and Kansas give agricultural workers the right to unionize through agricultural labor relations acts, Hawaii, Massachusetts, New Jersey, Wisconsin, and Kansas do so through mandates for collective bargaining rights of private workers which apply to agricultural workers. Overall there is no federal or SSAP mandate applying to agricultural workers to protect the collective bargaining rights or the right to unionize.

Indicator **2.4.4** requires that “workers are not hindered from interacting with external parties outside working hours (e.g. NGOs, trade unions, labor inspectors, agricultural extension workers, certification bodies).” SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) which allows workers to file a complaint with the Wage and Hour division, file a private lawsuit, or testify/cooperate with an investigation/lawsuit without being intimidated, threatened, restrained, coerced, blacklisted, discharged, or discriminated against. Directive 3.6 of the SSAP requires that producers are in compliance with Occupational Safety and Health Act which provides whistle blower protections.

2.4 There is freedom of association and the right to collective bargaining for all workers.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.4.1 There is the right for all workers and sharecroppers to establish and/or join an organization of their choice		The National Labor Relations Act and Labor-Management Reporting and Disclosure Act (Landrum-Griffin Act) give collective bargaining rights to employees but specifically exclude agricultural workers. Any right to unionize is given by the states, but only nine US states have such laws in place.	Does not meet. There are no SSAP or federal regulations that ensure agricultural workers collective bargaining rights, but nine states (Arizona, Maine, California, Oregon, Kansas, Hawaii, Massachusetts, New Jersey, Wisconsin, and Kansas) have such laws in place.
2.4.2 The effective functioning of such organizations is not impeded. Representatives are not subject to discrimination and have access to their members in the workplace on request.		Federal regulations such as the NLRA do not apply to agriculture employees.	Does not meet. No federal or SSAP sanctions.
2.4.3 All workers have the right to perform collective bargaining.		Federal regulations such as the NLRA do not apply to agriculture employees.	Does not meet. No federal or SSAP sanctions.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.4.4 Workers are not hindered from interacting with external parties outside working hours (e.g. NGOs, trade unions, labor inspectors, agricultural extension workers, certification bodies).	<p>Directive 3.6 of the SSAP requires that producers are in compliance with Occupational Safety and Health Act (OSHA) which provides whistle blower protection.</p> <p>SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).</p>	OSHA provides whistle blower protection. The MSPA allows workers to file a complaint with the Wage and Hour division, file a private lawsuit, or testify/cooperate with an investigation or lawsuit without being intimidated, threatened, restrained, coerced, blacklisted, discharged, or discriminated against.	Meets requirements. The MSPA and OSHA protect worker rights to speak out or take action against unjust actions by their employers.

RTRS principle 2.5 mandates “Remuneration at least equal to national legislation and sector agreements is received by all workers directly or indirectly employed on the farm.”

Indicator 2.5.1 requires that “Gross wages that comply with national legislation and sector agreements are paid at least monthly to workers.” SSAP Directive 3.4 requires that producers be in compliance with the Federal Labor Standards Act (FLSA) which sets the minimum wage for employees of groups earning \$500,000 or more annually, or those involved in interstate commerce (all SSAP producers should fall into at least one of those groups). State labor laws mandate the frequency of paydays. All states except Alabama, Montana, and Pennsylvania specify at least monthly payments. Some states specify greater payday frequency. If not specified, the payday is designated by the employer, who must inform workers of the pay schedule before hiring them. The SSAP requires a minimum wage, but not all states require monthly payment.

Indicator **2.5.2** states “Deductions from wages for disciplinary purposes are not made, unless legally permitted. Wages and benefits are detailed and clear to workers, and workers are paid in a manner convenient to them. Wages paid are recorded by the employer.” SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) which requires employers to keep records including any monetary sums withheld from employees and the reasons for withholding the sums. This helps to insure that any withheld funds are justified and legal.

RTRS indicator **2.5.3** states “Normal weekly working hours do not exceed 48 hours. Weekly overtime hours do not exceed 12 hours.” The FLSA (SSAP directive 3.4) sets the normal workweek at 40 hours, but does not limit overtime hours. So while the normal weekly workweek does not exceed 48 hours, overtime may exceed 12 hours.

Indicator **2.5.4** states that “If additional overtime hours are necessary the following conditions are met: a) It only occurs for limited periods of time (eg. peak harvest, planting). b) Where there is a trade union or representative organization the overtime conditions are negotiated and agreed with that organization. c) Where there is no trade union or representative organization agreement the average working hours in the two-month period after the start of the exceptional period still do not exceed 60 hours per week.” The FLSA (SSAP directive 3.4) does not cap how many hours can be worked per week, or for how many consecutive weeks overtime can be required, and there are no protections for agricultural workers’ unions (see comparison to RTRS 2.4). Thus the SSAP does not meet the requirements in RTRS 2.5.4.

Indicator **2.5.5** requires that “Working hours per worker are recorded by the employer.” SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA), which requires employers to keep records including the number of hours worked by each employee.

Indicator **2.5.6** requires that “Overtime work at all times is voluntary and paid according to legal or sector standards. In case overtime work is needed, workers receive timely notification. Workers are entitled to at least one day off following every six consecutive days of work.” There are no regulations from the SSAP or federal law that require sick days, holidays, vacation days, or days off for employees.

Indicator **2.5.7** states “Salaried workers have all entitlements and protection in national law and practice with respect to maternity. Workers taking maternity leave are entitled to return to their employment on the same terms and conditions that applied to them prior to taking leave and they are not subject to any discrimination, loss of seniority or deductions of wages.” The FLSA (SSAP directive 3.4) requires employers who are covered by the Family and Medical Leave Act (FMLA) (1993) to provide unpaid maternity leave for 12 weeks of a 12 month work cycle to biological, foster, legal, or acting parents. Covered employers include private-sector employers of 50 or more employees working 20 or more workweeks in the current or previous calendar year. Eligible employees must have worked for the covered employer a minimum of 12 months and a minimum of 1,250 hours of service during the 12 month period immediately preceding the leave.

Indicator **2.5.8** states “If workers are paid per result, a normal 8 hour working day allows workers, (men and women), to earn at least the national or sector established minimum wage.” The FLSA (SSAP directive 3.4) requires that workers be paid at least minimum wage, even if workers are paid per result.

Indicator **2.5.9** requires that “If employees live on the farm, they have access to affordable and adequate housing, food and potable water. If charges are made for these, such charges are in accordance with market conditions. The living quarters are safe and have at least basic sanitation.” The MSPA (SSAP directive 3.7) requires employers to post a notice for terms and conditions of housing, and all housing must meet federal and state safety standards that require potable water and other amenities.

2.5 Remuneration at least equal to national legislation and sector agreements is received by all workers directly or indirectly employed on the farm.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.5.1 Gross wages that comply with national legislation and sector agreements are paid at least monthly to workers	Directive 3.4 requires that producers comply with the Federal Labor Standards Act (FLSA).	FLSA sets the minimum wage for employees of groups earning \$500,000 or more annually, or those involved in interstate commerce. State labor laws mandate payday frequency. All states except Alabama, Montana, and Pennsylvania specify at least monthly payments. Some states specify greater frequency. If not specified, the payday is designated by the employer, who must inform workers of the pay schedule.	Substantively meets requirements. Meets with the exception of Alabama, Montana, and Pennsylvania, in which the pay schedule is designated by the employer and must be announced to the worker.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.5.2 Deductions from wages for disciplinary purposes are not made, unless legally permitted. Wages and benefits are detailed and clear to workers, and workers are paid in a manner convenient to them. Wages paid are recorded by the employer.	Directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).	The MSPA requires employers to keep records of wages, including any monetary sums withheld from employees and the reasons for withholding the sums.	Meets requirements. All deductions must be recorded according to the MPSA, helping to insure that all withheld funds are justified and legal.
2.5.3 Normal weekly working hours do not exceed 48 hours. Weekly overtime hours do not exceed 12 hours.	SSAP directive 3.4 requires that producers comply with Fair Labor Standards Act (FLSA)	FLSA sets the normal workweek at 40 hours but does not limit overtime hours.	Does not meet. Although normal weekly working hours are set at 40 hours, there is no cap on how much overtime employees can work.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>2.5.4 If additional overtime hours are necessary the following conditions are met:</p> <p>a) It only occurs for limited periods of time (eg. peak harvest, planting).</p> <p>b) Where there is a trade union or representative organization the overtime conditions are negotiated and agreed with that organization.</p> <p>c) Where there is no trade union or representative organization agreement the average working hours in the two-month period after the start of the exceptional period still do not exceed 60 hours per week.</p>	<p>SSAP directive 3.4 requires that producers comply with Fair Labor Standards Act (FLSA)</p>	<p>FLSA sets the normal workweek at 40 hours but does not limit overtime hours or the amount of hours a worker (16 years or older) can be required to work in a day or week.</p>	<p>Does not meet.</p> <p>There are no regulated limits on hours worked per day or week, or for how many consecutive weeks overtime can be required.</p> <p>There is no requirement that overtime conditions be negotiated with trade unions.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.5.5 Working hours per worker are recorded by the employer.	Directive 3.4 requires that producers comply with the Fair Labor Standards Act (FLSA). Directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).	The FLSA and the MSPA require employers to keep records including the number of hours worked by each employee.	Meets requirements through federal regulations.
2.5.6 Overtime work at all times is voluntary and paid according to legal or sector standards. In case overtime work is needed, workers receive timely notification. Workers are entitled to at least one day off following every six consecutive days of work.	Directive 3.4 requires that producers comply with the Fair Labor Standards Act (FLSA).	Although the FLSA requires that workers be paid 150% of their normal hourly wage for overtime work, agricultural workers are exempt from this rule. This still meets the requirements, however, as not paying extra for overtime does not violate sector standards.	Does not meet. The FLSA does not require sick days, holidays, or vacation days.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>2.5.7 Salaried workers have all entitlements and protection in national law and practice with respect to maternity. Workers taking maternity leave are entitled to return to their employment on the same terms and conditions that applied to them prior to taking leave and they are not subject to any discrimination, loss of seniority or deductions of wages.</p>	<p>SSAP directive 3.4 requires that producers are in compliance with Fair Labor Standards Act (FLSA).</p>	<p>The FLSA requires employers to provide unpaid maternity leave for 12 weeks of a 12 month work cycle to biological, foster, legal, or acting parents.</p>	<p>Meets requirements. Workers taking unpaid maternity leave do not forfeit their employment.</p>
<p>2.5.8 If workers are paid per result, a normal 8 hour working day allows workers, (men and women), to earn at least the national or sector established minimum wage.</p>	<p>SSAP directive 3.4 requires that producers are in compliance with Fair Labor Standards Act (FLSA)</p>	<p>The FLSA requires that workers be paid at least minimum wage, even if workers are paid per result.</p>	<p>Meets requirements. Workers must be paid a sum at least equal to minimum wage for the time worked.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
2.5.9 If employees live on the farm, they have access to affordable and adequate housing, food and potable water. If charges are made for these, such charges are in accordance with market conditions. The living quarters are safe and have at least basic sanitation.	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA).	The MSPA requires employers to post a notice for terms and conditions of housing, and all housing must meet federal and state safety standards that require potable water and other amenities.	Meets requirements. The MSPA regulates employee housing quality.

RTRS principle 3

Responsible Community Relations

RTRS principle 3.1 states that “Channels are available for communication and dialogue with the local community on topics related to the activities of the soy farming operation and its impacts.”

Indicator 3.1.1 requires that “Documented evidence of communication channels and dialogue is available,” **3.1.2** states that “The channels adequately enable communication between the producer and the community,” and **3.1.3** requires that “The communication channels have been made known to the local communities.” Though there is no SSAP mandate to meet these, the Emergency Planning and Community Right-to-Know Act exists to help communities deal with “the many hazardous substances that are used throughout our society” with the goal of facilitating cooperation between interested citizens and public-interest organizations and the government, establishing a forum for discussion, and focusing on chemical releases. Also, most communities and farmers have access to the internet and communication tools such as websites, blogs, and social media sites, although there is not documented evidence that specific farms are using these resources. Other resources also exist to give concerned citizens an idea of what is going on in nearby farms. For instance, the USDA cooperative extension system office is a nationwide educational network that provides research-based information regarding standard agricultural practices. The EPA ‘Surf your watershed’ site gives information regarding potential watershed contamination. These sites merely provide general information, however, and do not provide direct contact between local communities and producers. In some cases local communities may not know how to access information regarding local producers.

3.1 Channels are available for communication and dialogue with the local community on topics related to the activities of the soy farming operation and its impacts.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
3.1.1 Documented evidence of communication channels and dialogue is available.		The Emergency Planning and Community Right-to-Know Act helps communities deal with hazardous with the goal of facilitating cooperation between interested citizens and public-interest organizations and government levels, establishing a forum focusing on chemical releases.	Substantively Meets. In a broad sense this is met, as most communities and farmers have access to the internet and communication tools, however there is no documented evidence that specific farms are using these resources.
3.1.2 The channels adequately enable communication between the producer and the community.			Substantively Meets. There are online resources available that enable communication, but there may not be specific channels for every local producer and community.
3.1.3 The communication channels have been made known to the local communities			Substantively Meets. Channels are probably known, but there is no evidence that they have been made clear to local communities.

RTRS principle 3.2 requires that conflicting land uses are avoided or resolved in areas with traditional land users.

Indicator **3.2.1** states “In the case of disputed use rights, a comprehensive, participatory and documented community rights assessment is carried out.” The U.S. court system provides a mechanism for mediating disputed use rights; however, there is no requirement for a community rights assessment.

Indicator **3.2.2** states “Where rights have been relinquished by traditional land users, there is documented evidence that the affected communities are compensated subject to their free, prior, informed and documented consent.” The U.S. court system is the mechanism for dealing with land use disputes, and case documents are maintained. Litigation, restraining orders, and injunctions could stop land conversion before the conflict is resolved. The U.S. government also has an established relationship and mechanisms in place for handling unresolved land use claims. Contracts are generally governed by state statutory and common law. Contracts can be deemed invalid and unenforceable if it is determined that one party lacked the capacity to understand the agreement, if a party signed the contract under coercion or undue influence, or under fraudulent dealings like misrepresentation or nondisclosure.

The U.S. and Indian Tribes have a government-to-government relationship. U.S. Code 25 regulates this relationship and how land use claims are resolved. The American Indian Agricultural Resource Management Act of 1993 states that the U.S. has a trust responsibility to protect, conserve, utilize, and manage Indian agricultural lands. The U.S. government has a system in place to handle land use disputes.

3.2 In areas with traditional land users, conflicting land uses are avoided or resolved.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
3.2.1 In the case of disputed use rights, a comprehensive, participatory and documented community rights assessment is carried out.		The U.S. court system provides a mechanism for mediating disputed use rights	Does not meet the requirement for a community rights assessment.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
3.2.2 Where rights have been relinquished by traditional land users there is documented evidence that the affected communities are compensated subject to their free, prior, informed and documented consent.		The U.S. court system is the mechanism for dealing with land use disputes. The U.S. and Indian Tribes have a government to government relationship and how land use claims are resolved. The American Indian Agricultural Resource Management Act of 1993 states that U.S. has a trust responsibility to protect, conserve, utilize, and manage Indian agricultural lands.	Meets requirements. The U.S. government court system handles land use disputes. Litigation, restraining orders, and injunctions could stop land conversion. The U.S. government has an established relationship and mechanisms in place for handling unresolved land use claims. Contract law prohibits coercion, undue influence, misrepresentation, nondisclosure, and lack of capacity in contracts.

RTRS principle 3.3 requires that “A mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users.”

Indicator **3.3.1** states “The complaints and grievances mechanism has been made known and is accessible to the communities.” The US court system allows the filing of complaints and grievances in all aspects of life, and is available to all. Directive 3.7 of the SSAP requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) which allows workers to file a complaint with the Wage and Hour division, file a private lawsuit, or testify/cooperate with an investigation/lawsuit w/out being intimidated, threatened, restrained, coerced, blacklisted, discharged, or discriminated against, and requires that posters stating workers’ rights be posted in a language that employees understand.

Indicator **3.3.2** requires that “Documented evidence of complaints and grievances received is maintained.” Though there is not an SSAP mandate to meet this, the US court system makes and keeps records of complaints made.

Indicator **3.3.3** states “Any complaints and grievances received are dealt with in a timely manner.” There are no SSAP or federal regulations to ensure this.

3.3 A mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
3.3.1 The complaints and grievances mechanism has been made known and is accessible to the communities	SSAP directive 3.7 requires that producers comply with the Migrant and Seasonal Agricultural Worker Protection Act.	The MSPA allows workers to file a complaint with the Wage and Hour division, file a private lawsuit, or testify or cooperate with an investigation/lawsuit without being intimidated, threatened, restrained, coerced, blacklisted, discharged, or discriminated against.	Meets requirements. The US court system is a widely used system for filing grievances.
3.3.2 Documented evidence of complaints and grievances received is maintained.		The US court system makes records of all complaints made.	Meets requirements. Proper records are kept, and court records are accessible online.
3.3.3 Any complaints and grievances received are dealt with in a timely manner.		The guarantee of a Speedy and public trial only applies to criminal trials.	Substantively Meets. The intention of the U.S. court system is to provide speedy trials, but this goal cannot always be met.

RTRS principle 3.4 requires that “Fair opportunities for employment and provision of goods and services are given to the local population.”

Indicator **3.4.1** states “Employment opportunities are made known locally.”

Indicator **3.4.2** states “There is collaboration with training programs for the local population,” and **3.4.3** requires that “Opportunities for supply of goods and services are offered to the local population.” There are no SSAP or federal regulation to meet any of these points.

3.4 Fair opportunities for employment and provision of goods and services are given to the local population.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
3.4.1 Employment opportunities are made known locally.			Does not meet. There are no such requirements.
3.4.2 There is collaboration with training programs for the local population.			Does not meet. There are no such requirements.
3.4.3 Opportunities for supply of goods and services are offered to the local population.			Does not meet. There are no such requirements.

RTRS principle 4

Environmental Responsibility

RTRS principle 4.1 requires that “On and off site social and environmental impacts of large or high risk new infrastructure have been assessed and appropriate measures taken to minimize and mitigate any negative impacts.”

Indicator **4.1.1** states “A social and environmental assessment is carried out prior to the establishment of large or high risk new infrastructure.” Though there is no SSAP mandate to meet this, large or high risk new infrastructure falls under the purview of the National Environmental Policy Act (NEPA) (1970) which mandates environmental and social impact assessments.

Indicator **4.1.2** requires that “The assessment is carried out by someone who is adequately trained and experienced for this task.” NEPA mandates that the party interested in the new infrastructure hire a certified and/or registered contracting source to create an Environmental Impact Assessment (EIA) that includes general information on the project.

Indicator **4.1.3** states “The assessment is carried out in a comprehensive and transparent manner.” NEPA’s required EIA must be open to the public for discussion, and must include the purpose and need for the infrastructure, alternatives (including proposed action), and potential environmental consequences.

Indicator **4.1.4** requires that “Measures to minimize or mitigate the impacts identified by the assessment are documented and are being implemented.” Under NEPA after producers complete the EIA document, the reviewer follows up with implementation, effectiveness, and validation monitoring to ensure that the infrastructure is safe, effective, and necessary.

4.1 On and off site social and environmental impacts of large or high risk new infrastructure have been assessed and appropriate measures taken to minimize and mitigate any negative impacts.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.1.1 A social and environmental assessment is carried out prior to the establishment of large or high risk new infrastructure		Large or high risk new infrastructure falls under the National Environmental Policy Act (NEPA) which mandates environmental and social impact assessments.	Meets requirements. NEPA requires assessments of environmental and social impacts for such infrastructure.
4.1.2 The assessment is carried out by someone who is adequately trained and experienced for this task		NEPA mandates that the party interested in the new infrastructure hire a certified and/or registered contracting source to create an Environmental Impact Assessment (EIA).	Meets requirements. NEPA requires that qualified parties create the EIA.
4.1.3 The assessment is carried out in a comprehensive and transparent manner.		NEPA mandates an Environmental Impact Assessment (EIA) which is open to public discussion. The EIA must include the purpose and need for the infrastructure, alternatives, and potential environmental consequences.	Meets requirements. High risk infrastructure is subject to NEPA policies and must provide an EIA that is open to public discussion.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.1.4 Measures to minimize or mitigate the impacts identified by the assessment are documented and are being implemented.		NEPA requires that after producers complete the EIA document, the reviewer follows up with implementation, effectiveness, and validation monitoring to ensure that the infrastructure is safe, effective, and necessary.	Meets requirements. NEPA requires continued monitoring of sites even after review.

RTRS principle 4.2 mandates that “Pollution is minimized and production waste is managed responsibly.”

Indicator **4.2.1** states that “There is no burning on any part of the property of crop residues, waste, or as part of vegetation clearance, except under one of the following conditions: a) Where there is a legal obligation to burn as a sanitary measure; b) Where it is used for generation of energy including charcoal production and for drying crops; c) Where only small-caliber residual vegetation from land clearing remains after all useable material has been removed for other uses.” Directive 3.9 of the SSAP requires that producers are in compliance with the Resource Conservation and Recovery Act (RCRA) (1976) which regulates hazardous waste but not all waste, and allows states to define waste management. Farmers are permitted to “dispose of nonhazardous agricultural wastes on their own property provided that the disposal is not prohibited by other state or local laws.” Manure and crop residue are considered nonhazardous agricultural wastes, and thus may legally be disposed of through burning unless state or local laws prohibit it.

Indicator **4.2.2** requires that “There is adequate storage and disposal of fuel, batteries, tires, lubricants, sewage and other waste.” Though the RCRA (SSAP directive 3.9) regulates hazardous waste, it does not deal with the storage of nonhazardous waste materials. State mandates regulate the storage and disposal of fuel, batteries, tires, lubricants, and sewage, and regulations vary between states. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (1947) regulates the disposal of pesticide wastes. Farmers are permitted to “dispose of nonhazardous agricultural wastes on their own property provided that the disposal is not prohibited by other state or local laws.” U.S. Environmental regulations (40 CFR) regulate the use and disposal of sewage sludge, and the Clean Water Act

regulates any discharges of pollutants or hazardous materials that go directly into surface waters. The Oil Spill Prevention, Control, and Countermeasures (SPCC) require qualifying farms to contain oils properly and to have a spill plan. Batteries qualify as Universal Waste, and federal hazardous waste regulations apply under RCRA.

Indicator **4.2.3** requires that “There are facilities to prevent spills of oil and other pollutants.” RCRA (SSAP directive 3.9) regulates storage containers that hazardous materials can be held in, but their regulations do not apply to storage tanks holding less than 1,100 gallons of motor fuel “for noncommercial purposes”, or those holding less than 110 gallons of heating oil. The Clean Water Act (1972) requires anti-spillage measures. The Oil Spill Prevention, Control, and Countermeasures (SPCC) Program (1990) applies to farms maintaining at least 1320 US gallons of oil above ground, 42,000 below, and those that could discharge oil to waters. It requires that such farms implement an SPCC plan, which includes spill prevention measures.

RTRS indicator **4.2.4** encourages that “Re-use and recycling are utilized wherever possible.” RCRA encourages recycling, but leaves any requirements up to states, meaning that the regulations are inconsistent. Despite this, the clarification “wherever possible” adds a large margin for interpretation to 4.2.4 which can be met by the encouragement of recycling.

Indicator **4.2.5** states “There is a residue management plan including all areas of the property.” There is no SSAP regulation which meets this, but the National Discharge Elimination System (NPDES) (1972) permit system requires producers whose discharge could enter surface water sites to have a waste disposal plan. Many producers may not fall under NPDES jurisdiction, however, and would not need a residue management plan for their property.

4.2 Pollution is minimized and production waste is managed responsibly.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.2.1 There is no burning on any part of the property of crop residues, waste, or as part of vegetation clearance, except under one of the following conditions: a) Where there is a legal obligation to burn as a sanitary measure; b) Where it is used for generation of energy including charcoal production and for drying crops; c) Where only small-caliber residual vegetation from land clearing remains after all useable material has been removed for other uses.	Directive 3.9 of the SSAP requires producers to comply with the Resource Conservation and Recovery Act (RCRA).	RCRA regulates hazardous waste, and allows states to define waste management. Farmers are permitted to “dispose of nonhazardous agricultural wastes on their own property provided that the disposal is not prohibited by other state or local laws.” Manure and crop residue are considered nonhazardous agricultural wastes, thus burnable by law.	Does not meet. The RCRA and Clean Air Act leave regulation of non-hazardous waste to producers.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.2.2 There is adequate storage and disposal of fuel, batteries, tires, lubricants, sewage and other waste.	Directive 3.2 requires compliance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Directive 3.9 requires that producers are in compliance with the Resource Conservation and Recovery Act (RCRA) which regulates hazardous waste.	State mandates regulate the storage and disposal of such materials, but regulations can vary from state to state. FIFRA regulates the disposal of pesticide wastes. U.S. Environmental code (40 CFR) regulates the use and disposal of sewage sludge. The Clean Water Act regulates any discharges of pollutants or hazardous materials that go directly into surface waters. The Oil Spill Prevention, Control, & Countermeasures (SPCC) requires qualifying farms to contain oils properly and to have a spill plan. Batteries qualify as Universal Waste and RCRA federal hazardous waste regulations apply.	Meets requirements through federal regulations. Hazardous materials are regulated by the RCRA, and many states have regulations on waste disposal. There is often financial incentive to recycle batteries. Many states regulate tire disposal and recycling. The Clean Water Act requires adequate storage and disposal to avoid water contamination. Farmers are regulated by FIFRA when disposing of pesticide wastes on their own property in compliance with label instructions.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.2.3 There are facilities to prevent spills of oil and other pollutants.	Directive 3.9 of the SSAP requires that producers are in compliance with the Resource Conservation and Recovery Act (RCRA) which requires that oil be held in tanks.	The Clean Water Act requires anti-spillage measures. The Oil Spill Prevention, Control, and Countermeasures (SPCC) Program applies to farms maintaining at least 1320 US gallons of oil above ground, 42,000 below, and those that could discharge oil to waters. These farms must implement an SPCC plan that includes spill prevention measures.	Meets requirements through federal regulations.
4.2.4 Re-use and recycling are utilized wherever possible.	Directive 3.9 of the SSAP requires that producers are in compliance with the Resource Conservation and Recovery Act (RCRA).	RCRA encourages recycling, but leaves mandates to state regulation.	Meets requirements. The RCRA encourages recycling, and the term “wherever possible” makes this section a suggestion rather than a mandate.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.2.5 There is a residue management plan including all areas of the property.	Directive 3.9 of the SSAP requires that producers are in compliance with the Resource Conservation and Recovery Act (RCRA).	National Discharge Elimination System (NPDES) permit system requires producers whose discharge could enter surface water sites to have a waste disposal plan.	Partially meets requirements. If producers fall under NPDES jurisdiction they meet these requirements. Otherwise there are no overreaching mandates for residue management plans.

RTRS principle 4.3 requires that “Efforts are made to reduce emissions and increase sequestration of Greenhouse Gases (GHGs) on the farm.”

Indicator **4.3.1** mandates that “Total direct fossil fuel use over time is recorded, and its volume per hectare and per unit of product for all activities related to soy production is monitored.” There are currently no SSAP or federal regulations to meet this, but producers generally track expenses like fuel use for tax and budgeting purposes. The Internal Revenue Service (IRS) (1862) provides tax incentive for alternative fuel and bio-fuel use on farms. The US EPA (1970) regulates Green House Gas (GHG) emissions of large emitters under the Clean Air Act, and will begin regulating smaller emitters sometime after 2015. The USDA Rural Energy for America Program (authorized through the Food, Conservation, and Energy Act of 2008) provides Energy Audit and Renewable Energy Grants and Energy Efficiency Grants which cover up to 25% of the cost of approved projects. These incentives might help reduce fossil fuel use on farms. Despite the lack of a mandate there is financial incentive for producers to track fossil fuel use in order to maximize productivity and profits. The Field to Market report and the Life Cycle Impact of Soybeans report include fossil fuel use which can serve as a baseline to track usage changes for the national group of soybean producers. U.S. Agriculture economists track trends in agricultural energy uses.

Indicator **4.3.2** states “If there is an increase in the intensity of fossil fuel used, there is a justification for this. If no justification is available there is an action plan to reduce use.” There is no mandate for this, however gas prices provide incentive to track and reduce fossil fuel used where possible in order to maximize productivity and profits. The SSAP directive 4.10 recommends that producers and grain handlers consider transportation methods such as barge and rail to reduce greenhouse gas emissions.

Indicator **4.3.3** states that “Soil organic matter is monitored to quantify change in soil carbon and steps are taken to mitigate negative trends.” SSAP directive 2.1 requires that producers consider conservation tillage methods that will increase soil health and organic matter, but this is not mandated. The USDA Natural Resources Conservation Service (1935) provides general soil surveys and technical information for much of the country, meaning that soil in the area may be monitored, but not necessarily soil in the production area. Farmers who want to label their produce as organic are required to monitor soil organic matter to meet the soil standards required by the National Organic Program (established by the Organic Food Production Act of 1990, put into code at 7 CFR part 205 in 2000), but most producers are not required to monitor soil organic matter.

Indicator **4.3.4** states “Opportunities for increasing carbon sequestration through restoration of native vegetation, forest plantations and other means are identified.” SSAP directive 4 recommends that producers continue to seek improvement to environmental protection through National conservation programs like the (4.1) Conservation Reserve Program (CRP), (4.3) Environmental Quality Incentives

Program (EQIP), (4.2) Conservation Stewardship Program (CSP), and (4.5) Wildlife Habitat Incentive Program, which are voluntary financial incentive programs operated by the USDA's Natural Resources Conservation Service. Though not mandated, these sources identify means of increasing carbon sequestration.

4.3 Efforts are made to reduce emissions and increase sequestration of Greenhouse Gases (GHGs) on the farm.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.3.1 Total direct fossil fuel use over time is recorded, and its volume per hectare and per unit of product for all activities related to soy production is monitored.	There is no mandate	There is no mandate, but producers often track expenses like fuel use for tax and budgeting purposes. The Internal Revenue Service (IRS) provides tax incentives for alternative fuel and bio-fuel use on farms. The US EPA regulates GHG emissions of large emitters under the Clean Air Act, and will begin regulating smaller emitters after 2015. The USDA Rural Energy for America Program Energy Audit and Renewable Energy Grants and Energy Efficiency Grants cover up to 25% of the cost of approved projects. These incentives might help reduce fossil fuel use on farms.	Substantively Meets. This may be met as a group, as Soybean Life Cycle Analyses and Field to Market reports track fuel use for soybean producers as a group. U.S. Agriculture economists track trends in agricultural energy uses. Individual producer fuel use is not addressed by the SSAP. There is financial incentive for producers to track fossil fuel use in order to maximize productivity and profits. U.S. Agriculture economists track trends in agricultural energy uses.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.3.2 If there is an increase in the intensity of fossil fuel used, there is a justification for this. If no justification is available there is an action plan to reduce use.	SSAP directive 4.10 recommends that producers and grain handlers consider transportation methods such as barge and rail to reduce greenhouse gas emissions. There is no mandate to track or reduce fuel use.		Substantively Meets. U.S. Agriculture economists track trends in agricultural energy uses. Gas prices provide incentive to track and reduce fossil fuel used where possible in order to maximize productivity and profits.
4.3.3 Soil organic matter is monitored to quantify change in soil carbon and steps are taken to mitigate negative trends.	Directive 2.1 Requires that producers consider conservation tillage methods that will increase soil health and organic matter, but this is not mandated. Producers are not required to monitor soil organic matter.	The USDA Natural Resources Conservation Service provides general soil surveys for much of the country, and provides technical information. Farmers who label their produce as organic are required to monitor soil organic matter to meet the soil standards required by the National Organic Program.	Substantively Meets. The SSAP addresses the spirit of the requirement (to avoid negative trends in soil organic matter) through directive 2.1, but without a mandate, producers may not monitor or maintain soil organic matter.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.3.4 Opportunities for increasing carbon sequestration through restoration of native vegetation, forest plantations and other means are identified.	Directive 4 recommends that producers continue to seek improvement to environmental protection through National conservation programs like the (4.1) Conservation Reserve Program (CRP), (4.3) Environmental Quality Incentives Program (EQIP), (4.2) Conservation Stewardship Program (CSP), and (4.5) Wildlife Habitat Incentive Program	The Conservation Reserves Program (CRP), Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), and Wildlife Habitat Incentive Program are voluntary financial incentive programs operated by the USDA's Natural Resources Conservation Service.	Meets requirements. The directive identifies means of increasing carbon sequestration.

RTRS principle 4.4 requires that “Expansion of soy cultivation is responsible.”

Indicator **4.4.1** states “4.4.1 After May 2009 expansion for soy cultivation has not taken place on land cleared of native habitat except under the following conditions: 4.4.1.1 It is in line with an RTRS-approved map and system (see Annex 4.) or 4.4.1.2 Where no RTRS-approved map and system is available: a) Any area already cleared for agriculture or pasture before May 2009 and used for agriculture or pasture within the past 12 years can be used for soy expansion, unless regenerated vegetation has reached the definition of native forest (see glossary). b) There is no expansion in native forests (see glossary) c) In areas that are not native forest (see glossary), expansion into native habitat only occurs according to one of the following two options: Option 1. Official land-use maps such as ecological-economic zoning are used and expansion only occurs in areas designated for expansion by the zoning. If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity (CBD) are used, and expansion only occurs outside priority areas for conservation shown on these maps.

Option 2. A High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas. Note: Where neither official land use maps nor CBD maps exist, Option 2 must be followed.” SSAP directive 1 limits soybean production since January 1, 2008 in ecologically sensitive areas. The SSAP requires that producers are in compliance with the Highly Erodible Land Conservation Program (HEL) (1985), 1.3 mandates that soybeans cannot be produced on continuously forested land, 1.4 requires that soybeans are not produced on peatland, 1.5 states that soybeans must not be produced on designated protected areas, and 1.8 requires soybean producers to file the appropriate AD-1026 form with an authorized auditing body certifying adherence to all applicable laws and regulations. HEL and Wetland Conservation (WC) were established with the 1985 Farm Bill in order to reduce soil erosion and protect soil fertility, water quality, and preserve the functions of wetlands. The Natural Resources Conservation Service (NRCS) (1935) determines what land is highly erodible and establishes conservation plans and systems and determines whether plans and systems are complied with. Form AD-1026 certifies that the producer will not plant on highly erodible fields without an approved conservation plan or conservation system, not plant on wetlands converted after December 23, 1985, not convert wetlands to cropland, and not use proceeds from any FSA farm loan or USDA cost-share program in a way that would negatively impact wetlands. It also authorizes USDA representatives to inspect producers to confirm compliance. These regulations provide the same purpose of responsible soy cultivation and expansion as RTRS indicator 4.4.1.

Indicator **4.4.2** states “There is no conversion of land where there is an unresolved land use claim by traditional land users under litigation, without the agreement of both parties.” Although this is not addressed by the SSAP, The U.S. court system is the mechanism for dealing with land use disputes. The U.S. and Indian Tribes have a government-to-government relationship. U.S. Code 25 regulates this relationship and how land use claims are resolved. The American Indian Agricultural Resource Management Act of 1993 states that U.S. has a trust responsibility to protect, conserve, utilize, and manage Indian agricultural lands. Litigation, restraining orders, and injunctions could stop land conversion. The U.S. government also has an established relationship and mechanisms in place for handling unresolved land use claims.

4.4 Expansion of soy cultivation is responsible.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>4.4.1 After May 2009 expansion for soy cultivation has not taken place on land cleared of native habitat except under the following conditions:</p> <p>4.4.1.1 It is in line with an RTRS-approved map and system (see Annex 4.) or</p> <p>4.4.1.2 Where no RTRS-approved map and system is available:</p> <p>a) Any area already cleared for agriculture or pasture before May 2009 and used for agriculture or pasture within the past 12 years can be used for soy expansion, unless regenerated vegetation has reached the definition of native forest (see glossary).</p> <p>b) There is no expansion in native forests (see glossary)</p> <p>c) In areas that are not native forest (see glossary), expansion into native habitat only occurs according to one of the following two options:</p> <p>Option 1. Official land-use maps such as</p>	<p>Directive 1 limits soybean production since January 1, 2008 in ecologically sensitive areas.</p> <p>(1.1.3) Producers are in compliance with the Highly Erodible Land Conservation Program.</p> <p>(1.3) Soybeans are not produced on continuously forested land</p> <p>(1.4) Soybeans are not produced on peatland</p> <p>(1.5) Soybeans are not produced on land that was primary forest</p> <p>(1.6) Soybeans are not produced on designated protected areas</p> <p>(1.8) Soybean producers file appropriate AD-1026 form with authorized auditing body certifying adherence to all applicable laws and regulations</p>	<p>Highly Erodible Land (HEL) Conservation Program and Wetland Conservation (WC) Program apply.</p> <p>The NRCS determines what land is highly erodible and establishes conservation plans and systems and determines whether plans and systems are complied with.</p> <p>Form AD-1026 certifies that the producer won't plant on highly erodible fields or wetlands or convert wetlands to cropland, or use USDA funds to negatively impact wetlands. This form authorizes USDA representatives to inspect the farm to confirm compliance.</p>	<p>Meets requirements. The directive specifies compliance with the Highly Erodible Land Conservation Program and Wetland Conservation Provisions, which provides the same purpose of responsible soy cultivation and responsible expansion of soy cultivation.</p>

<p>ecological-economic zoning are used and expansion only occurs in areas designated for expansion by the zoning. If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity (CBD) are used, and expansion only occurs outside priority areas for conservation shown on these maps.</p> <p>Option 2. An High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas.</p> <p>Note: Where neither official land use maps nor CBD maps exist, Option 2 must be followed.</p>			
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RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.4.2 There is no conversion of land where there is an unresolved land use claim by traditional land users under litigation, without the agreement of both parties.	Not addressed	The U.S. court system deals with land use disputes. The U.S. and Indian Tribes have a government-to-government relationship. U.S. Code 25 regulates this relationship and how land use claims are resolved. The American Indian Agricultural Resource Management Act of 1993 states that U.S. has a trust responsibility to protect, conserve, utilize, and manage Indian agricultural lands	Meets requirements through federal court system. The U.S. government has a system in place to handle land use disputes. Litigation, restraining orders, and injunctions could stop land conversion. The U.S. government also has an established relationship and mechanisms in place for handling unresolved land use claims.

RTRS principle 4.5 requires that “On-farm biodiversity is maintained and safeguarded through the preservation of native vegetation.”

Indicator **4.5.1** states “There is a map of the farm, which shows the native vegetation.” There are no SSAP or federal mandates to ensure this, however producers do have access to maps. NRCS regularly provides maps for producers while developing conservation plans. They can also purchase aerial images of their farm from the Aerial Photography Field Office of the USDA Farm Service Agency, or can download aerial and ground images of their farm from geographical information programs like Google Earth. These images would show native vegetation. The U.S. Geological Survey also provides access to maps and geographical information systems that show native vegetation.

Indicator **4.5.2** requires that “There is a plan, which is being implemented, to ensure that the native vegetation is being maintained (except areas covered under Criterion 4.4).” There is no mandate for maintaining or implementing a plan to maintain native vegetation, but SSAP Directive 1.1.1 requires that producers comply with laws that prohibit habitat alteration where endangered or threatened species are found, and Directive 1.1.2 mandates that producers comply with the U.S. Endangered Species Act (1973). Directive 4.1 recommends the Conservation Reserve Program (CRP)(1956), which removes environmentally sensitive land from production. Directive 4.4 recommends the Agriculture Water Enhancement Program (AWEP) (2008) which provides opportunities to improve plant resources (along with other resources). Directive 4.5 recommends the Wildlife Habitat Incentive Program (WHIP) (1996), which provides funds to help establish and improve fish and wildlife habitat. Although the statute is not addressed directly, SSAP recommendations for participation in conservation programs like the AWEP or WHIP program provide incentive for farmers to preserve native vegetation. Compliance with the Endangered Species Act would protect endangered native vegetation.

Indicator **4.5.3** states that there shall be “No hunting of rare, threatened or endangered species takes place on the property.” SSAP directive 1.1.2 requires that producers are in compliance with the US Endangered Species Act of 1973 which protects endangered and threatened species and their habitats throughout the U.S. The law prohibits the “take” of listed animals without a permit. “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Permits are only issued for scientific research, enhancement of propagation or survival, and taking that is incidental to otherwise lawful activity. For threatened species, permits may also be issued for zoological exhibition and educational use.

4.5 On-farm biodiversity is maintained and safeguarded through the preservation of native vegetation.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.5.1 There is a map of the farm, which shows the native vegetation.	Not Addressed directly		Substantively Meets. Producers have access to maps. NRCS provides maps during conservation plans development. They can purchase aerial images of their farm from the Aerial Photography Field Office of the USDA Farm Service Agency, or can download aerial and ground images of their farm from geographical information programs like Google Earth. These images would show native vegetation. The U.S. Geological Survey also provides access to maps and geographical information systems that show native vegetation.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>4.5.2 There is a plan, which is being implemented, to ensure that the native vegetation is being maintained (except areas covered under Criterion 4.4)</p>	<p>There is no mandate for maintaining or implementing a plan to maintain native vegetation.</p> <p>Directive 1.1.1 states that producers comply with laws that prohibit habitat alteration where endangered or threatened species are found. Directive 1.1.2 states that producers comply with the U.S. Endangered Species Act.</p> <p>Directive 4.1 recommends the Conservation Reserve Program (CRP)</p> <p>4.4 recommends the Agriculture Water Enhancement Program (AWEP)</p> <p>4.5 recommends the Wildlife Habitat Incentive Program (WHIP).</p>	<p>The USDA EQIP (Environmental Quality Incentives Program) helps farmers implement conservation practices to address natural resource issues.</p> <p>The Wildlife Habitat Incentive Program (WHIP) helps farmers develop and improve wildlife habitat.</p> <p>The CRP removes environmentally sensitive land from production.</p> <p>The AWEP provides opportunities to improve plant resources (along with other resources).</p> <p>The WHIP provides funds to help establish and improve fish and wildlife habitat.</p>	<p>Substantively Meets.</p> <p>The statute is not addressed directly, but SSAP recommendations for participation in conservation programs provide incentive for farmers to preserve native vegetation.</p> <p>Compliance with the Endangered Species Act protects endangered native vegetation.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
4.5.3 No hunting of rare, threatened or endangered species takes place on the property.	Directive 1.1.2 states that producers are in compliance with U.S. Endangered Species Act.	The Endangered Species Act protects endangered and threatened species and their habitats throughout the U.S. The law prohibits the “take” of listed animals without a permit.	Meets requirements through federal regulations.

RTRS principle 5

Good Agricultural Practice

RTRS principle 5.1 requires that “The quality and supply of surface and ground water is maintained or improved.”

Indicator 5.1.1 states “Good agricultural practices are implemented to minimize diffuse and localized impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources and to promote aquifer recharge.” SSAP directive 2.1.4 requires that producers consider conservation tillage methods to reduce water and nutrient runoff. The USDA provides educational materials to help producers understand and implement conservation tillage methods which have been shown to reduce soil erosion and runoff. Directive 2.5 states that producers will consider Precision Farming Techniques which include (2.5.1) variable rate fertilizer and herbicide application and (2.5.2) field mapping for herbicide and pesticide application, and (2.5.3) field mapping for fertilizer application. These techniques allow the optimization of returns on inputs while preserving resources. Fertilizer and herbicide application is optimized so chemicals are less likely to affect water quality. The conservation tillage methods would minimize impacts, however, they are not mandated. Directive 3.9 mandates that producers are in compliance with the Resource Conservation and Recovery Act (RCRA, 1976), which was enacted in 1976 in order to protect human health and the environment from waste disposal hazards and to ensure that wastes are managed in an environmentally sound manner. The program controls hazardous waste, non-hazardous solid waste, and underground storage tanks. Directive 3.10 requires producers to comply with the Safe Drinking Water Act (SDWA, 1974) to protect public health by preventing contamination of surface and ground sources of drinking water. Directive 4.4 recommends the Agricultural Water Enhancement Program (AWEP) (2008) to provide financial and technical assistance to conserve ground and surface water and improve water quality on agricultural lands. Directive 4.8 states that the National Sustainable Soybean Initiatives will develop Best Management Practices (BMP) by region and determine BMP adoption rates. The Clean Water Act (CWA) was enacted in 1972 to protect the chemical, physical, and biological integrity of the nation’s water by preventing point and nonpoint pollution sources. The Non Point Source pollution management program (1972) (section 319) requires states to manage NPS pollution through the identification and implementation of BMPs. Federal and state regulations (CWA) are in place to regulate impacts to surface and ground water quality from chemical residues, fertilizers, erosion, and other sources and to promote aquifer recharge. The USDA incentive programs (EQIP and AWEP) provide assistance for conservation activity plans. Producers or partnerships must submit an application and be approved before they receive any funding or assistance. There are many federal and SSAP mandates to meet RTRS indicator 5.1.1.

Indicator **5.1.2** requires that “There is monitoring, appropriate to scale, to demonstrate that the practices are effective.” The SSAP does not mandate or monitor practices, however under directive 4.2 the Conservation Stewardship Program (CSP) (2002) requires monitoring and documentation to demonstrate implementation and effectiveness of conservation practices. NRCS also cost shares on edge-of-field monitoring to assess the efficiencies of conservation practices. The National Pollutant Discharge Elimination Systems (NPDES) Program as part of the Clean Water Act (CWA) established in 1972 is a permitting system for regulating point sources of pollution. If producers require an NPDES permit, they may have monitoring and reporting requirements. State governments may require monitoring under the CWA section 319 permits to insure the implementation of BMPs and to determine how conservation measures affect water quality. Directive 4.4 recommends that producers are in compliance with the AWEPP program which provides assistance for conservation activity plans, and priority is given to those proposals that include a plan to monitor and evaluate the effects of the implemented conservation practices.

Indicator **5.1.3** states that “Any direct evidence of localized contamination of ground or surface water is reported to, and monitored in collaboration with local authorities.” This is not directly addressed by the SSAP, but is met by federal regulations. The CWA regulates discharges of designated hazardous substances. Facilities must immediately notify the National Response Center and State Agencies of any unauthorized discharge of reportable quantity of a designated hazardous substance into navigable waters, the shorelines of navigable waters, and contiguous zones. Discharges of harmful quantities of oil must also be immediately reported.

Indicator **5.1.4** states “Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to legislation and best practice guidance (where this exists), and for measurement of water utilization.” SSAP directive 4.4 recommends the Agriculture Water Enhancement Program (AWEPP) but makes no mandate. AWEPP provides technical and financial assistance for water quality and water conservation plan development, water conservation projects, water quality or quantity restoration or enhancement projects, irrigation system improvement and irrigation efficiency enhancement, drought mitigation activities, and related activities to achieve water quality. State governments may require monitoring under the CWA section 319 permits to insure the implementation of BMPs and to determine how conservation measures affect water quality.

5.1 The quality and supply of surface and ground water is maintained or improved.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.1.1 Good agricultural practices are implemented to minimize diffuse and localized impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources and to promote aquifer recharge.</p>	<p>Directive 2.1.4 states that producers consider conservation tillage methods to reduce water and nutrient runoff. Directive 2.5 states that producers will consider Precision Farming Techniques which include (2.5.1) variable rate fertilizer and herbicide application and (2.5.2) field mapping for herbicide and pesticide application, and (2.5.3) field mapping for fertilizer application. Directive 3.9 states that producers are in compliance with the Resource Conservation and Recovery Act, which controls hazardous waste, non-hazardous solid waste, and underground storage tanks. Directive 3.10 states that</p>	<p>The USDA provides educational materials to help producers understand and implement conservation tillage methods which have been shown to reduce soil erosion and runoff. Precision Farming Techniques allow for optimizing returns on inputs while preserving resources. Fertilizer and herbicide application is optimized so chemicals are less likely to affect water quality. The Resource Conservation and Recovery Act (RCRA) regulates hazardous waste, non-hazardous solid waste, and underground storage tanks in order to protect human health and the environment from waste disposal hazards and to ensure that</p>	<p>Substantively Meets.</p> <p>The conservation tillage methods would minimize impacts, however, they are not mandated.</p> <p>Federal and state regulations (CWA) are in place to regulate impacts to surface and ground water quality from chemical residues, fertilizers, erosion, and other sources and to promote aquifer recharge.</p> <p>The USDA incentive programs (EQIP and AWEPP) provide assistance for conservation activity plans. Producers or partnerships must submit an application and be approved before they receive any funding or assistance.</p>

	<p>producers are in compliance with the Safe Drinking Water Act to protect public health by preventing contamination of surface and ground sources of drinking water.</p> <p>Directive 4.4 recommends the Agricultural Water Enhancement Program (AWEP) to provide financial and technical assistance to conserve ground and surface water and improve water quality on agricultural lands.</p> <p>Directive 4.8 states that the National Sustainable Soybean Initiatives will develop Best Management Practices (BMP) by region and determine BMP adoption rates</p>	<p>wastes are managed in an environmentally sound manner.</p> <p>The Safe Drinking Water Act protects public water supplies (groundwater and surface water) from harmful contaminants.</p> <p>The Clean Water Act (CWA) regulates point and nonpoint pollution sources. The Non Point Source pollution management program (section 319) requires states to manage NPS pollution through the identification and implementation of BMPs.</p> <p>USDA NRCS runs the AWEP as part of EQIP, a voluntary conservation initiative that provides financial and technical assistance. AWEP helps producers implement water enhancement activities to conserve water and improve water quality on agricultural land.</p>	
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RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.1.2 There is monitoring, appropriate to scale, to demonstrate that the practices are effective.	<p>Neither practices nor monitoring are mandated by the SSAP.</p> <p>Directive 4.2 The Conservation Stewardship Program (CSP) requires monitoring and documentation to demonstrate implementation and effectiveness of conservation practices.</p> <p>Directive 4.4 The EQIP and AWEPP programs may require monitoring and evaluation of practice implementation and effects.</p>	<p>The National Pollutant Discharge Elimination Systems (NPDES) Program as part of the Clean Water Act (CWA) established in 1972 is a permitting system for regulating point . If producers require an NPDES permit, they may have monitoring and reporting requirements. State governments may require monitoring under the CWA section 319 permits to insure the implementation of BMPs and to determine how conservation measures affect water quality.</p>	<p>Meets requirements. The Principle is met through Federal and State regulations (Clean Water Act). It also may be met through USDA incentive programs.</p> <p>The USDA incentive programs (EQIP and AWEPP) provide assistance for conservation activity plans, and priority is given to those proposals that include a plan to monitor and evaluate the effects of the implemented conservation practices.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.1.3 Any direct evidence of localized contamination of ground or surface water is reported to, and monitored in collaboration with local authorities.	Not directly addressed by SSAP	US law 40 cfr parts 116 and 117 regulate discharges of designated hazardous substances. Facilities must immediately notify the National Response Center and State Agencies of any unauthorized discharge of reportable quantity of a designated hazardous substance into navigable waters, the shorelines of navigable waters, and contiguous zones. Discharges of harmful quantities of oil must also be immediately reported.	Meets requirements through Federal and State regulations.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.1.4 Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to legislation and best practice guidance (where this exists), and for measurement of water utilization.	Directive 2.5 recommends that producers consider Precision Farming Techniques, which allows for optimization of water utilization. Directive 4.4 recommends the Agriculture Water Enhancement Program (AWEP) to provide financial and technical assistance to implement conservation practices and activities that improve soil, water, plant, animal, and related resources.	<p>Agriculture Water Enhancement Program provides technical and financial assistance for a) water quality and water conservation plan development, b) water conservation projects, c) water quality or quantity restoration or enhancement projects, d) irrigation system improvement and irrigation efficiency enhancement, e) drought mitigation activities, and f) related activities to achieve water quality.</p> <p>State governments may require monitoring under the CWA section 319 permits to insure the implementation of BMPs and to determine how conservation measures affect water quality.</p>	<p>Substantively Meets.</p> <p>There is no mandate for a documented procedure for applying BMPs in irrigation. Irrigation is regulated on the state and local level, and requirements vary. The Clean Water Act (section 319) requires the implementation of BMPs and monitoring for some producers. Other NRCS conservation programs may also require monitoring and documentation.</p>

RTRS principle 5.2 states “Natural vegetation areas around springs and along natural watercourses are maintained or re-established.”

Indicator **5.2.1** states “The location of all watercourses has been identified and mapped, including the status of the riparian vegetation.” There is no direct SSAP response to this, however the Fish and Wildlife Service has developed maps to show wetlands and deep water habitats, which are used by various governmental and other institutions. The U.S. Geological Survey (USGS) provides maps, aerial photographs, satellite imagery, and geographical information systems that show hydrology and land cover as well as other data. These maps are available and accessible to the public.

Indicator **5.2.2** states “Where natural vegetation in riparian areas has been removed there is a plan with a timetable for restoration which is being implemented.” There are many voluntary federal programs to assist in restoring wetlands or other habitats, such as the EPA’s National Estuary Program, USDA’s Wetland Reserve Program, and the US Fish and Wildlife Service North American Wetlands Conservation Act’s grant programs. Other USDA conservation programs like (SSAP directive 4.1) the Conservation Reserve Program (CRP) to remove environmentally sensitive land from production, (SSAP directive 4.4) the Agriculture Water Enhancement Program (AWEP) to implement conservation practices that address natural resource concerns, and (SSAP directive 4.5) the Wildlife Habitat Incentive Program (WHIP) could provide financial incentive and funding for riparian zone restoration. Though these programs could meet indicator 5.2.2 they are not mandated or comprehensive.

Indicator **5.2.3** states that “Natural wetlands are not drained and native vegetation is maintained.” SSAP directive 1.2 states that soybeans are not produced on wetlands. Directive 1.2.1 states that producers are in compliance with Section 404 of the Clean Water Act regarding agricultural impacts on wetlands. Section 404 of the Clean Water Act is meant to prevent destruction of wetlands, and permit applicants must describe steps taken to minimize impacts to water bodies and wetlands and may be required to restore or create new wetlands to mitigate unavoidable impacts. Directive 1.2.2 states that producers are in compliance with U.S. wetlands conservation provisions. U.S. Wetlands Conservation Provisions (1985) prohibit USDA program participants from converting wetlands to cropland.

5.2 Natural vegetation areas around springs and along natural watercourses are maintained or re-established.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.2.1 The location of all watercourses has been identified and mapped, including the status of the riparian vegetation.	No direct response	The US Fish and Wildlife Service has developed maps to show wetlands and deep water habitats which are used by various governmental and other institutions. The U.S. Geological Survey (USGS) provides maps, aerial photographs, satellite imagery, and geographical information systems that show hydrology and land cover as well as other data. NRCS will do wetland determinations upon request.	Meets requirements through Federal Entities that provide mapping services. These maps are available and accessible to the public. Producers can also request a wetland determination from NRCS to ensure they are not adversely affecting wetlands.

RTRS Statute	SSAP response	Federal Regulations	Analysis
<p>5.2.2 Where natural vegetation in riparian areas has been removed there is a plan with a timetable for restoration which is being implemented.</p>	<p>No direct response</p>	<p>Many voluntary federal programs can assist in restoring wetlands or other habitats, such as the EPA's National Estuary Program, USDA's Wetland Reserve Program and Environmental Quality Incentives Program, and the US Fish and Wildlife Service North American Wetlands Conservation Act's grant programs. Other USDA conservation programs like (4.1) the Conservation Reserve Program (CRP) to remove environmentally sensitive land from production, (4.4) the Agriculture Water Enhancement Program (AWEP) to implement conservation practices that address natural resource concerns, and (4.5) the Wildlife Habitat Incentive Program (WHIP) could provide financial incentive and funding for riparian zone restoration.</p>	<p>Substantively Meets. Not mandated or comprehensive.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.2.3 Natural wetlands are not drained and native vegetation is maintained.	Directive 1.2 states that soybeans are not produced on wetlands. Directive 1.2.1 states that producers are in compliance with Section 404 of the Clean Water Act regarding agricultural impacts on wetlands. Directive 1.2.2 states that producers are in compliance with U.S. wetlands conservation provisions.	Section 404 of the Clean Water Act is meant to prevent destruction of wetlands, permit applicants must describe steps taken to minimize impacts to water bodies and wetlands and may be required to restore or create new wetlands to mitigate unavoidable impacts. U.S. Wetlands Conservation Provisions prohibit USDA program participants from converting wetlands to cropland.	Meets requirements

RTRS principle 5.3 states that “Soil quality is maintained or improved and erosion is avoided by good management practices.”

Indicator **5.3.1** states “Knowledge of techniques to maintain soil quality (physical, chemical and biological) is demonstrated and these techniques are implemented.” SSAP directive 2.5 recommends that producers consider Precision Farming Techniques using GPS and other technologies. These techniques are based on measuring and responding to field variability, optimizing returns on inputs, and preserving resources. Directive 4.9 lists multiple sources for technology transfer of Best Management Practices (BMPs), 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties, and 4.13 recommends the development of additional performance metrics. The USDA also offers information and BMPs for a variety of topics through the Cooperative Extension System Offices, a nationwide educational network. Though there is no mandate to ensure that techniques are implemented, BMP’s are accessible to producers.

Indicator **5.3.2** states that “Knowledge of techniques to control soil erosion is demonstrated and these techniques are implemented.” SSAP directive 1.3 states

that producers are in compliance with the Highly Erodible Land Conservation program, which provides dis-incentives to farmers who produce crops on highly erodible cropland without adequate erosion protection. The objective of the Highly Erodible Land Conservation Program is to reduce soil losses from wind and water erosion.

Indicator **5.3.3** states “Appropriate monitoring, including soil organic matter content, is in place.” Directive 2.5 recommends that producers consider Precision Farming Techniques utilizing GPS and other technologies. GPS allows producers to monitor and create maps of various data like organic matter content, moisture levels, and nutrient levels. The SSAP requires each producer to conduct an “annual internal audit of compliance”. The documentation is submitted to the USDA-FSA who will review and approve the documentation, there will also be randomized third-party independent audits. There is no mandate for monitoring of soil organic matter content, however, recommended Precision Farming Techniques and recommended BMPs would suggest this type of monitoring. The Field to Market Alliance for Sustainable Agriculture has an online “Fieldprint Calculator” that allows growers to analyze management choices and monitor soil and crop information.

5.3 Soil quality is maintained or improved and erosion is avoided by good management practices

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.3.1 Knowledge of techniques to maintain soil quality (physical, chemical and biological) is demonstrated and these techniques are implemented.</p>	<p>Directive 2.5 recommends that producers consider Precision Farming Techniques using GPS and other technologies. These techniques are based on measuring and responding to field variability, optimizing returns on inputs, and preserving resources.</p> <p>Directive 4.9 lists multiple sources for technology transfer of Best Management Practices (BMPs)</p> <p>Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties.</p> <p>Directive 4.13 recommends the development of additional performance metrics</p>	<p>The USDA offers information and BMPs for a variety of topics through the Cooperative Extension System Offices, a nationwide educational network.</p>	<p>Substantively Meets.</p> <p>There is no mandate, but the SSAP references sources of BMPs and technical guides. Producers can access these BMPs and guides.</p>

RTRS Statute	SSAP response	Federal Regulations	Analysis
5.3.2 Knowledge of techniques to control soil erosion is demonstrated and these techniques are implemented.	Directive 1.1.3 states that producers are in compliance with the Highly Erodible Land Conservation program, which provides disincentives to farmers who produce crops on highly erodible cropland without adequate erosion protection.	The objective of the Highly Erodible Land Conservation Program is to reduce soil losses from wind and water erosion.	Meets requirements by requiring compliance with federal program that requires awareness and implementation of soil erosion control practices.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.3.3 Appropriate monitoring, including soil organic matter content, is in place.	Directive 2.5 recommends that producers consider Precision Farming Techniques utilizing GPS and other technologies. GPS allows producers to monitor and create maps of various data like organic matter content, moisture levels, and nutrient levels. The SSAP requires each producer to conduct an “annual internal audit of compliance”. The documentation is submitted to the USDA-FSA who will review and approve the documentation, there will also be randomized third-party independent audits	Compliance with USDA incentive programs requires monitoring and reporting, but not of soil organic matter content.	<p>Substantively Meets. There is no mandate for monitoring of soil organic matter content, however, recommended Precision Farming Techniques and recommended BMPs would suggest this type of monitoring.</p> <p>The Field to Market Alliance for Sustainable Agriculture has an online “Fieldprint Calculator” that allows growers to analyze management choices and monitor soil and crop information.</p>

RTRS principle 5.4 requires that “Negative environmental and health impacts of phytosanitary products are reduced by implementation of systematic, recognized Integrated Crop Management (ICM) techniques.”

Indicator **5.4.1** states “A plan for ICM is documented and implemented which addresses the use of prevention, and biological and other non-chemical or selective chemical controls.” SSAP directive 2.1 recommends that producers consider conservation tillage as appropriate. Directive 2.4 states that producers will consider crop rotation to improve soil health and biodiversity, 2.5 states that producers will consider Precision Farming Techniques as appropriate, utilizing Global Positioning System (GPS) and other advanced technologies. Precision farming techniques allow producers to optimize returns while preserving resources. GPS allows producers to

create maps with variables like crop yield, terrain, topography, organic matter content, moisture levels, and nutrient levels. There is no mandate for the documentation or implementation of a plan for ICM, but the SSAP does recommend some of the techniques that are used in ICM (conservation tillage and crop rotation). The SSAP also recommends Precision Farming Techniques. These techniques meet the ICM goals of conserving and enhancing natural resources.

Indicator **5.4.2** states “There is an implemented plan that contains targets for reduction of potentially harmful phytosanitary products over time.” SSAP directive 2.5 recommends precision farming techniques, including field mapping for seed planting and herbicide and pesticide application. Directive 3.2 states that producers are in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Through this Act, the EPA regulates the use and sale of pesticides to protect human health and the environment. The EPA sets maximum residue levels for pesticides in and on food. State and local governments may also regulate pesticide use, and the Clean Water Act’s Nonpoint Source Pollution management programs require states to establish programs to manage NPS pollution, including fertilizers and pesticides, but there is no mandated plan for reducing phytosanitary products over time. SSAP recommended Precision Farming Techniques could achieve this goal, if utilized. NPS programs that require BMPs to reduce pesticide leaching should help reduce the use of phytosanitary products over time.

Indicator **5.4.3** states “Use of phytosanitary products follows legal requirements and professional recommendations (or, if professional recommendations are not available, manufacturer’s recommendations) and includes rotation of active ingredients to prevent resistance.” SSAP directive 3.1 states that producers are in compliance with US EPA Worker Protection Standard (WPS) (1992) and meet regulations for pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance. FIFRA (SSAP directive 3.2) requires that all pesticides be registered with EPA, have proper labels, and be used in accordance with specifications. Certification and training are required for pesticide applicators using restricted use pesticides. The EPA recommends the rotation of active ingredients to prevent resistance, but there is no mandate.

Indicator **5.4.4** states “Records of monitoring of pests, diseases, weeds and natural predators are maintained.” There is no SSAP mandate for this, however the USDA’s Animal and Plant Health Inspection Service’s (APHIS) Cooperative Agricultural Pest Survey Program collects data on pests with cooperation from state Departments of Agriculture in order to gather data on pests of concern to agriculture in the United States. This partially meets indicator 5.4.4.

5.4 Negative environmental and health impacts of phytosanitary products are reduced by implementation of systematic, recognized Integrated Crop Management (ICM) techniques.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.4.1 A plan for ICM is documented and implemented which addresses the use of prevention, and biological and other non-chemical or selective chemical controls	Directive 2.1 recommends that producers consider conservation tillage as appropriate. Directive 2.4 states that producers will consider crop rotation to improve soil health and biodiversity. Directive 2.5 states that producers will consider Precision Farming Techniques as appropriate, utilizing Global Positioning System (GPS) and other advanced technologies. Precision farming techniques allow producers to optimize returns while preserving resources. GPS allows producers to create maps with variables like crop yield, terrain, topography, organic matter content, moisture levels, and nutrient levels		Substantively Meets. There is no mandate for documentation or implementation of a plan for ICM, but the SSAP does recommend some of the techniques that are used in ICM (conservation tillage and crop rotation). The SSAP also recommends Precision Farming Techniques. These techniques meet the ICM goals of conserving and enhancing natural resources.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.4.2 There is an implemented plan that contains targets for reduction of potentially harmful phytosanitary products over time.</p>	<p>Directive 2.5 recommends precision farming techniques, including field mapping for seed planting and herbicide and pesticide application</p> <p>Directive 3.2 states that producers are in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)</p>	<p>The EPA regulates the use and sale of pesticides through FIFRA to protect human health and the environment. The EPA sets maximum residue levels for pesticides in and on food. State and local governments may also regulate pesticide use. The Clean Water Act's Nonpoint Source Pollution (NPS) management programs require states to establish programs to manage NPS pollution, including fertilizers and pesticides.</p>	<p>Substantively Meets.</p> <p>There is no mandated plan for reducing phytosanitary products over time, however, recommended Precision Farming Techniques could achieve this goal. NPS programs that require BMPs to reduce pesticide leaching should help reduce the use of phytosanitary products over time.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.4.3 Use of phytosanitary products follows legal requirements and professional recommendations (or, if professional recommendations are not available, manufacturer's recommendations) and includes rotation of active ingredients to prevent resistance.</p>	<p>Directive 3.1 states that producers are in compliance with US EPA Worker Protection Standard (WPS) and meet regulations for pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance.</p> <p>Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act, that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides.</p>	<p>Through FIFRA, the EPA regulates the use and sale of pesticides to protect human health and the environment. The EPA sets maximum residue levels for pesticides in and on food. State and local governments may also regulate pesticide use. The EPA recommends the rotation of active ingredients as a resistance management strategy.</p>	<p>Meets requirements of legal and professional recommendations through Federal and State regulations. There is no mandate for the rotation of active ingredients to prevent resistance, but EPA recommends it.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.4.4 Records of monitoring of pests, diseases, weeds and natural predators are maintained	Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act	FIFRA and the EPA set legal requirements for pesticide approval. The USDA's APHIS Cooperative Agricultural Pest Survey Program collects data on pests with help from state Departments of Agriculture.	Substantively Meets. Requirements met at the group level through USDA data collection. There is no SSAP mandate for producers to maintain monitoring records of pests, diseases, weeds, or natural predators. The USDA collects data on pests.

RTRS principle 5.5 states that “All application of agrochemicals is documented and all handling, storage, collection and disposal of chemical waste and empty containers, is monitored to ensure compliance with good practice.”

Indicator **5.5.1** requires that “There are records of the use of agrochemicals, including: a) products purchased and applied, quantity and dates; b) identification of the area where the application was made; c) names of the persons that carried out the preparation of the products and field application; d) identification of the application equipment used; e) weather conditions during application.” SSAP directive 3.2 requires that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA requires that all pesticides are registered with the EPA, have proper labels, are used in accordance with specifications, and that certification and training are required for pesticide applicators using restricted-use pesticides. Records are required for restricted-use pesticides. The Pesticide Recordkeeping Program (PRP) of the Farm Bill requires records of federally restricted use pesticides, including the brand or product name, the EPA registration number, the total amount applied, the date, the location of the application, the crop, commodity, stored product, or site, the size of area treated, the name of the certified applicator, and the certification number of the certified applicator. These regulations only apply to restricted-use pesticides, however, and do not comprehensively cover all agrochemicals.

Indicator **5.5.2** states “Containers are properly stored, washed and disposed of; waste and residual agrochemicals are disposed in an environmentally appropriate way.” This is also met by FIFRA (SSAP directive 3.2), which requires that pesticides be used in accordance with their federally regulated labels. The EPA regulates procedures and standards for the removal of pesticides from containers prior to

disposal. The EPA requires that pesticide users correctly deal with empty pesticide containers, excess usable pesticides, and waste materials containing pesticides or pesticide residue.

Indicator **5.5.3** states that “Transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented.” FIFRA (SSAP directive 3.2) requires that pesticides be used in accordance with specifications. The EPA requires that pesticide labeling include instructions for the transportation, storage, and disposal of pesticides, empty pesticide containers, excess usable pesticides, and waste materials containing pesticides or residue. The Hazardous Materials and Transportation Act (1975) regulates the transportation of hazardous materials.

Indicator **5.5.4** states “The necessary precautions are taken to avoid people entering into recently sprayed areas.” SSAP directive 3.1 states that producers are in compliance with the US EPA Worker Protection Standard (EPA WPS) and meet all regulations for pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance. The EPA WPS prohibits applicators from applying pesticides in a way that exposes workers or other persons, requires restricted-entry intervals, and worker notification procedures. Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act, that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides. These regulations properly address the concerns in RTRS 5.5.4.

Indicator **5.5.5** states “Fertilizers are used in accordance with professional recommendations (provided by manufacturers where other professional recommendations are not available).” SSAP directive 4.12 states that Field Office Technical Guides are available in most counties and customized for local soil and conditions. These offer suggestions for best management practices regarding fertilizer use in the area. Each state has a fertilizer regulatory program that deals with consumer protection, labeling, handling, and application for the protection of human health and the environment. The Association of American Plant Food Control Officials (1946) establishes standard definitions for each fertilizer type. These programs provide guidelines and recommendations for fertilizer use. The Clean Water Act 303d, Impaired Waters and Total Maximum Daily Loads (TMDL) (1992) program requires producers in impaired watersheds to limit nutrient application and runoff, helping to limit over-application of fertilizers.

5.5 All application of agrochemicals² is documented and all handling, storage, collection and disposal of chemical waste and empty containers, is monitored to ensure compliance with good practice.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.5.1 There are records of the use of agrochemicals, including:</p> <ul style="list-style-type: none"> a) products purchased and applied, quantity and dates; b) identification of the area where the application was made; c) names of the persons that carried out the preparation of the products and field application; d) identification of the application equipment used; e) weather conditions during application. 	<p>Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act, that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides.</p>	<p>Records are required for restricted-use pesticides. The Pesticide Recordkeeping Program (PRP) of the Farm Bill requires records of federally restricted use pesticides, including</p> <ul style="list-style-type: none"> • The brand or product name • The EPA registration number • The total amount applied • The month, day, and year • The location of the application • The crop, commodity, stored product, or site • The size of area treated • The name of the certified applicator • The certification number of the certified applicator 	<p>Substantively Meets.</p> <p>The principle is somewhat met through Federal and state requirements, but these requirements do not comprehensively cover all agrochemicals.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.5.2 Containers are properly stored, washed and disposed of; waste and residual agrochemicals are disposed in an environmentally appropriate way.	Directive 3.2 requires producers comply with the Federal Insecticide, Fungicide, and Rodenticide Act, that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides.	The EPA regulates procedures and standards for the removal of pesticides from containers prior to disposal. The EPA states that pesticide users must correctly deal with empty pesticide containers, excess usable pesticides, and waste materials containing pesticides or residue.	Meets requirements through federal regulations

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.5.3 Transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented	Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act, that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides.	The EPA requires that pesticide labeling include instructions for the transportation, storage, and disposal of pesticides, empty pesticide containers, excess usable pesticides, and waste materials containing pesticides or residue. The Hazardous Materials and Transportation Act regulates the transportation of hazardous materials	Meets requirements through federal regulations

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.5.4 The necessary precautions are taken to avoid people entering into recently sprayed areas.	Directive 3.1 states that producers are in compliance with the US EPA Worker Protection Standard and meet all regulations for pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance. Directive 3.2 states that producers are in compliance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)	<p>The EPA WPS prohibits applicators from applying pesticides in a way that exposes workers or other persons, and requires restricted-entry intervals, and worker notification procedures.</p> <p>FIFRA requires that all pesticides are registered with EPA with proper labels and used in accordance with specifications, and certification and training are required for pesticide applicators using restricted use pesticides.</p>	Meets requirements through federal regulations

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.5.5 Fertilizers are used in accordance with professional recommendations (provided by manufacturers where other professional recommendations are not available).	Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties.	<p>Each state has a fertilizer regulatory program that deals with consumer protection, labeling, handling, and application for the protection of human health and the environment. The Association of American Plant Food Control Officials (AAPFCO) establishes standard definitions for each fertilizer type and ensures that labels are consistent with nutrient content.</p> <p>The Clean Water Act 303d TMDL program requires producers in impaired watersheds to limit nutrient application and runoff.</p>	<p>Meets requirements through state and federal regulations.</p> <p>State regulations and Cooperative Extension Office provide guidelines and recommendations for fertilizer use.</p> <p>Economics and CWA regulations help limit over application of fertilizers.</p>

RTRS principle 5.6 states that “Agrochemicals listed in the Stockholm and Rotterdam Conventions are not used.”

Indicator **5.6.1** requires that “There is no use of agrochemicals listed in the Stockholm and Rotterdam Conventions.” SSAP directive 3.3 states that the U.S. is

signatory to Rotterdam Convention of the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticide in International Trade. Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty. The U.S. is also signatory to the Stockholm Convention and agrees to reduce or eliminate the production, use, and/or release of designated persistent organic pollutants (POPs). The Safe Chemicals Act (2013) has been reintroduced as a reform to the Toxic Substances Control Act (TSCA) (1976), but has not been voted on yet. This Act would extend the Stockholm Convention's prohibitions on all of the original POPs chemicals to U.S. law so the U.S. could ratify the convention. Currently all Stockholm Convention banned chemicals are also banned for use in the U.S. by the EPA (exception for chlordane and heptachlor which are only allowed for fire ant control in underground electrical transformers).

5.6 Agrochemicals listed in the Stockholm and Rotterdam Conventions are not used.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.6 1 There is no use of agrochemicals listed in the Stockholm and Rotterdam Conventions.	Directive 3.3 states that the U.S. is signatory to Rotterdam Convention of the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticide in International Trade. The U.S. is also signatory to the Stockholm Convention and agrees to reduce or eliminate the production, use, and/or release of designated persistent organic pollutants (POPs).	Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty. The Safe Chemicals Act, if ratified, will extend the Stockholm Convention's prohibitions on all of the original POPs chemicals to U.S. law so the U.S. could ratify the convention.	Meets requirements through federal regulations Currently all Stockholm Convention banned chemicals are also banned for use in the U.S. by the EPA (exception for chlordane and heptachlor which are only allowed for fire ant control in underground electrical transformers).

RTRS principle 5.7 states “The use of biological control agents is documented, monitored and controlled in accordance with national laws and internationally accepted scientific protocols.” Indicator 5.7.1 requires that “There is information about requirements for use of biological control agents.” SSAP directive 2.3 requires that producers are in compliance with Plant Protection Act Regulation (2000) which applies to the importation of plants and plant products. The USDA Animal and Plant Health Inspection Service (APHIS) is the delegated enforcement agency of the Plant Protection Act and the Federal noxious weed program works to prevent the introduction of parasitic-plant pests and Federal noxious weeds into the U.S. APHIS reports regarding biocontrol species and feasibility are available and accessible from the USDA website. SSAP directive 4.8 states that the National Sustainable Soybean Initiative will develop Best Management Practices (BMP) by region and determine BMP adoption rates, and 4.9 states that Technology transfer of BMPs is available in numerous informational mechanisms such as: Certified Crop Advisors, Discovery Farms, on-line crop rotation data for specific geographies and soil types, plot tours, experimental field and research field days, and Tactical Agriculture Programs. Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties. Information is available to producers regarding the requirements for use of biological control agents, and is accessible from multiple sources.

Indicator **5.7.2** states “Records are kept of all use of biological control agents that demonstrate compliance with national laws.” There is no SSAP mandate to meet this. APHIS and some state agencies provide Biocontrol work plan templates and cooperative agreement reporting forms to help producers manage and monitor biological control agents, but these are not mandatory.

5.7 The use of biological control agents is documented, monitored and controlled in accordance with national laws and internationally accepted scientific protocols.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.7.1 There is information about requirements for use of biological control agents.	<p>Directive 2.3 requires producers to comply with the Plant Protection Act.</p> <p>Directive 4.8 states that the National Sustainable Soybean Initiative will develop BMPs by region and determine BMP adoption rates.</p> <p>Directive 4.9 states that Technology transfer of BMPs is available in numerous informational mechanisms</p> <p>Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties.</p>	<p>The USDA Animal and Plant Health Inspection Service (APHIS) is the delegated enforcement agency of the Plant Protection Act and the Federal noxious weed program works to prevent the introduction of parasitic-plant pests and Federal noxious weeds into the U.S. The Plant Protection Act applies to the importation of plants and plant products.</p> <p>APHIS reports regarding biocontrol species and feasibility are available and accessible from the USDA website.</p>	<p>Meets requirements. Information is available to producers regarding the requirements for use of biological control agents, and is accessible from multiple sources.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.7.2 Records are kept of all use of biological control agents that demonstrate compliance with national laws.	Not addressed	The Animal and Plant Health Inspection Service (APHIS) and some state agencies provide Biocontrol work plan templates and cooperative agreement reporting forms to help producers manage and monitor biological control agents, but these are not mandatory.	Substantively Meets. Such records are recommended by the USDA, but are not required by SSAP or federal regulations.

RTRS principle 5.8 states that “Systematic measures are planned and implemented to monitor, control and minimize the spread of invasive introduced species and new pests.”

Indicator **5.8.1** requires that “Where there are institutional systems in place to identify and monitor invasive introduced species and new pests, or major outbreaks of existing pests, producers follow the requirements of these systems, to minimize their spread.” SSAP directive 2.2 states that soybean seed commerce is in compliance with the Federal Seed Act (FSA, 1939) regarding fair trade and proper labeling. The FSA regulates labeling and purity standards for seeds and prohibits importing and transporting of adulterated or mislabeled seeds. Directive 2.3 states that producers are in compliance with the Plant Protection Act (PPA, 2000). The Federal Interagency Committee for the Management of Noxious and Exotic Weeds (1994) is a partnership of 16 U.S. agencies, including the USDA, USGS, Bureau of Reclamation, and U.S. Park service among others. These groups sponsor technical and educational conferences and workshops concerning invasive plants. The PPA and the USDA Federal noxious weed program work to prevent the introduction of parasitic-plant pests and Federal noxious weeds into the U.S. Most states also have Agriculture Departments that regulate invasive species within the state’s borders and include reporting requirements, and the U.S. Fish and Wildlife Service and the National Invasive Species Council and Information Center check for invasive species and prevent their spread.

Indicator **5.8.2** states “Where such systems do not exist, incidences of new pests or invasive species and major outbreaks of existing pests are communicated to the proper authorities and relevant producer organizations or research organizations. Note: For group certification - the group manager is responsible for communicating to the authorities and relevant organizations. Note: Agrochemicals refers to all chemicals used including fertilizers and pesticides.” This indicator is irrelevant since 5.8.1 is met.

5.8 Systematic measures are planned and implemented to monitor, control and minimize the spread of invasive introduced species and new pests.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
<p>5.8.1 Where there are institutional systems in place to identify and monitor invasive introduced species and new pests, or major outbreaks of existing pests, producers follow the requirements of these systems, to minimize their spread.</p>	<p>Directive 2.2 states that soybean seed commerce is in compliance with the Federal Seed Act (FSA) regarding fair trade and proper labeling.</p> <p>Directive 2.3 states that producers are in compliance with the Plant Protection Act (PPA).</p> <p>The Federal Interagency Committee for the Management of Noxious and Exotic Weeds sponsors technical and educational conferences and workshops concerning invasive plants.</p>	<p>The FSA regulates labeling and purity standards for seeds and prohibits importing and transporting of adulterated or mislabeled seeds. The PPA and the USDA Federal noxious weed program work to prevent the introduction of parasitic-plant pests and Federal noxious weeds into the U.S. Most states have Agriculture Departments that regulate invasive species within the state's borders and include reporting requirements. The U.S. Fish and Wildlife Service and The National Invasive Species Council and Information Center as well as other programs check for invasive species and prevent their spread.</p>	<p>Meets requirements through federal and state regulation.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.8.2 Where such systems do not exist, incidences of new pests or invasive species and major outbreaks of existing pests are communicated to the proper authorities and relevant producer organizations or research organizations. Note: For group certification - the group manager is responsible for communicating to the authorities and relevant organizations. Note: Agrochemicals refers to all chemicals used including fertilizers and pesticides	Directive 2.2 states that soybean seed commerce is in compliance with the Federal Seed Act (FSA) regarding fair trade and proper labeling. Directive 2.3 states that producers are in compliance with the Plant Protection Act.	See 5.8.1	Meets requirements through federal and state regulation.

RTRS indicator 5.9 states “Appropriate measures are implemented to prevent the drift of agrochemicals to neighboring areas.”

Indicator **5.9.1** requires that “There are documented procedures in place that specify good agricultural practices, including minimization of drift, in applying agrochemicals and these procedures are being implemented.” There is no one standard to meet this requirement; however there are many regulations which combine to create compliance. SSAP directive 2.5 states that producers will consider Precision Farming Techniques, utilizing GPS and other advanced technologies. SSAP directive 2.5.1 recommends variable rate fertilizer and herbicide application. Directive 3.1 states that producers are in compliance with EPA Worker Protection Standard regulations. The EPA WPS requires that employees handling equipment and chemicals follow label directions. Directive 3.2 states that producers are in

compliance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and that certification and training are required for pesticide applicators using restricted use pesticides. Directive 4.8 states that the National Sustainable Soybean Initiative will develop Best Management Practices (BMP) by region and determine BMP adoption rates, 4.9 states that Technology transfer of BMPs is available in numerous informational mechanisms, and 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most countries. All of these methods provide information regarding practices which may limit drift of agrochemicals. The EPA issued proposed guidance for new pesticide labeling to reduce overspray and drift in 2009. New label standards were to be implemented in 2013. The EPA has proposed a Drift Reduction Technology Program (2013) to identify and promote the use of application technologies that can significantly reduce spray drift. The program would be voluntary. The EPA is also working to consolidate existing BMPs to minimize off-target drift.

Indicator **5.9.2** requires that “Records of weather conditions (wind speed and direction, temperature and relative humidity) during spraying operations are maintained.” There are no SSAP requirements regarding this, and Commercial Applicator recordkeeping requirements vary by state. Some states or local governments require that weather conditions during spray operations be recorded and maintained. The EPA is working to consolidate existing BMPs to minimize off-target drift, but there are currently no mandates.

Indicator **5.9.3** states “Aerial application of pesticides is carried out in such a way that it does not have an impact on populated areas. All aerial application is preceded by advance notification to residents within 500m of the planned application,” indicator **5.9.4** requires that “There is no aerial application of pesticides in WHO Class Ia, Ib and II within 500m of populated areas or water bodies,” and indicator **5.9.5** states that “There is no application of pesticides within 30m of any populated areas or water bodies.” There are no SSAP requirements that directly meet these, though FIFRA requires that applicators follow label instructions, which include how and under what conditions pesticides can be applied. Label handling requirements for specific pesticides may limit aerial application. There are no standard federal regulations requiring advanced notification preceding aerial pesticide application. Local and state regulations may apply. The Clean Water Act requires that all applications of Class I Pesticides applied to fields where runoff may affect a water body require an NPDES permit, but there are no regulations regarding populated areas.

5.9 Appropriate measures are implemented to prevent the drift of agrochemicals to neighboring areas.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.9.1 There are documented procedures in place that specify good agricultural practices, including minimization of drift, in applying agrochemicals and these procedures are being implemented.	Directive 2.5 states that producers will consider Precision Farming Techniques, utilizing GPS and other advanced technologies. Directive 2.5.1 recommends variable rate fertilizer and herbicide application. Directive 3.1 requires that producers comply with EPA Worker Protection Standard regulations. Directive 3.2 requires that producers comply with FIFRA and that certification and training is required for pesticide applicators using restricted use pesticides. Directive 4.8 states that the National Sustainable Soybean Initiative will develop Best Management Practices (BMP) by region and	The Worker Protection Standard requires that workers handling equipment and chemicals must follow label directions. The EPA proposed guidance for new pesticide labeling to reduce overspray and drift in 2009 for implementation in 2013. The EPA has proposed a voluntary Drift Reduction Technology Program (2013) to identify and promote the use of application technologies that can significantly reduce spray drift. The EPA is also working to consolidate existing BMPs to minimize off-target drift.	Meets requirements through available BMPs and federal regulations.

	<p>determine BMP adoption rates. Directive 4.9 states that Technology transfer of BMPs is available in numerous informational mechanisms. Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most countries.</p>		
<p>5.9.2 Records of weather conditions (wind speed and direction, temperature and relative humidity) during spraying operations are maintained.</p>	<p>There are no SSAP requirements to maintain records of weather conditions during spraying.</p>	<p>Commercial Applicator recordkeeping requirements vary by state. Some states or local governments require that weather conditions during spray operations be recorded and maintained.</p> <p>The EPA is working to consolidate existing BMPs to minimize off-target drift.</p>	<p>Partially Meets. These records are not addressed by SSAP, but some states may require these records.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.9.3 Aerial application of pesticides is carried out in such a way that it does not have an impact on populated areas. All aerial application is preceded by advance notification to residents within 500m of the planned application	<p>There are no SSAP requirements</p> <p>Directive 3.2 states that producers are in compliance with FIFRA and that certification and training is required for pesticide applicators using restricted use pesticides.</p>	<p>There are no standard federal regulations requiring advanced notification preceding aerial pesticide application. Local and state regulations may apply.</p> <p>FIFRA requires that applicators follow label instructions, which include how and under what conditions pesticides can be applied.</p>	<p>Does not meet requirements. Not addressed by SSAP or Federal regulations. Some state or local regulations may limit aerial application. Label handling requirements for specific pesticides may limit aerial application.</p>
5.9.4 There is no aerial application of pesticides in WHO Class Ia, Ib and II within 500m of populated areas or water bodies.	See 5.9.3	<p>Local and state regulations may limit aerial application of pesticides. FIFRA requires that applicators follow label instructions, which include how and under what conditions pesticides can be applied.</p> <p>The Clean Water Act requires that all applications of Class I Pesticides applied to fields where runoff may affect a water body require an NPDES permit.</p>	<p>Partially Meets. Not addressed by SSAP. NPDES permitting may apply. Some state or local regulations may limit aerial application. Label handling requirements for specific pesticides may limit aerial application.</p>

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.9.5 There is no application of pesticides within 30m of any populated areas or water bodies.	See 5.9.3	There are no standard federal regulations preventing application of pesticides within 30m of any populated areas or water bodies. Local and state regulations may apply. FIFRA requires that applicators follow label instructions, which include how and under what conditions pesticides can be applied. The Clean Water Act requires that all applications of Class I Pesticides applied to fields where runoff may affect a water body require an NPDES permit.	Partially Meets. Not addressed by SSAP. NPDES permitting may apply. Some state or local regulations may limit application within 30m of populated areas or water bodies. Label handling requirements for specific pesticides may limit application within 30m of populated areas or water bodies.

RTRS principle 5.10 states “Appropriate measures are implemented to allow for coexistence of different production systems.”

Indicator **5.10.1** states “Measures are taken to prevent interference in production systems of neighboring areas.” This is not addressed by the SSAP, though the USDA is developing codes of Good Agriculture Practices to assist with producer co-existence. These codes address isolation distances, pollen barriers, and buffer strips. These codes will be considered as BMPs, but are not mandated. Some seed producers require adoption of practices by producers that reduce probability of trans-field impacts, and any disagreements regarding interference in production systems are handled through mediation or the U.S. court system. There are no federal laws or SSAP regulations that require this, however.

5.10 Appropriate measures are implemented to allow for coexistence of different production systems.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.10.1 Measures are taken to prevent interference in production systems of neighboring areas.	Not addressed by SSAP.	The USDA is developing codes of Good Agriculture Practices to assist with producer co-existence. These codes address isolation distances, pollen barriers, and buffer strips. These codes will be considered as BMPs, but are not mandated.	Partially Meets. Not addressed by SSAP or government. Seed providers require adoption of practices by producers that reduce probability of trans-field impacts. Disagreements regarding interference in production systems are handled through mediation or the U.S. court system.

RTRS principle 5.11 states that “Origin of seeds is controlled to improve production and prevent introduction of new diseases.”

Indicator **5.11.1** requires that “All purchased seed must come from known legal quality sources.” SSAP directive 2.2 requires that producers are in compliance with the Federal Seed Act (FSA, 1939) which regulates labeling and purity standards for seeds and prohibits importing and transporting of adulterated or mislabeled seeds.

Indicator **5.11.2** states “Self-propagated seeds may be used, provided appropriate seed production norms are followed and legal requirements regarding intellectual property rights are met.” The FSA (SSAP directive 2.2) regulates the quality of the seeds, and plants and seeds may be patent protected, meaning that growers may have to sign an agreement not to save or sell seeds from their harvest.

5.11 Origin of seeds is controlled to improve production and prevent introduction of new diseases.

RTRS Principle	SSAP Directive	Federal Regulations	Analysis
5.11.1 All purchased seed must come from known legal quality sources.	Directive 2.2 states that soybean seed commerce is in compliance with the Federal Seed Act (FSA) regarding fair trade and proper labeling.	The FSA regulates labeling and purity standards for seeds and prohibits importing and transporting of adulterated or mislabeled seeds. States may also have seed regulations.	Meets requirements through SSAP mandates and federal and state regulations.
5.11.2 Self-propagated seeds may be used, provided appropriate seed production norms are followed and legal requirements regarding intellectual property rights are met.	Directive 2.2 states that soybean seed commerce is in compliance with the Federal Seed Act regarding fair trade and proper labeling.	The FSA regulates labeling and purity standards for seeds and prohibits importing and transporting of adulterated or mislabeled seeds. Plants and seeds may be patent protected and growers may have to sign an agreement not to save or sell seeds from their harvest. States may also have seed regulations.	Meets requirements through SSAP mandates and federal and state regulations and patent law.

SSAP Directives not Met by RTRS

There are several Key Performance Indicators in which the SSAP contains more stringent requirements than the RTRS. The SSAP protects the workforce and the environment and promotes conservation through its directives and through U.S. regulations. Soybean producers can access U.S. regulations online through a multitude of websites. Federal Agencies (U.S. Department of Agriculture, Natural Resource Conservation Service, Environmental Protection Agency, etc.) also have local offices throughout the country that can provide answers and technical assistance to farmers. Producers also have access to the Cooperative Extension System, which is a nationwide, non-credit educational network. Every state has a system of local (county) or regional offices to provide research-based practical information to producers.

The SSAP outlines an auditing process to ensure compliance with the directives. This process requires annual internal audits by the producers, which must be submitted to the U.S. Department of Agriculture Farm Service Agency (USDA-FSA) for review and approval before the participant can be included in the group. The process also requires annual third-party audits conducted by the USDA-FSA for a percentage of group producers.

The SSAP requires protection of highly biodiverse grassland (**Directive 1.1**) and habitats of endangered and threatened species (**Directive 1.1.1**) while the RTRS does not address these areas. The SSAP also requires compliance with the U.S. Endangered Species Act, which protects endangered animals and plants and their habitats (**Directive 1.1.2**) throughout the U.S. The RTRS only prohibits hunting of rare, threatened, or endangered species on the farm property, but does not prohibit harming them or damaging their habitat. The RTRS also does not mention rare or endangered plants.

The SSAP requires compliance with the Highly Erodible Land Conservation Program (**Directive 1.1.3**), which ensures that producers employ practices that reduce soil loss, reduce sedimentation, protect wetland functions and water quality, and protect long-term production capability. The Farm Bill establishes a quantifiable definition of Highly Erodible Land (HEL) based on potential erosion, soil productivity, and certain soil loss factors. The RTRS requires that producers implement good agricultural practices to minimize erosion and its impacts on water sources, but it doesn't identify best practices or differentiate highly erodible land from more stable land.

SSAP Directive	RTRS Principle	Analysis
1.1 Soybeans are not produced on highly biodiverse grassland	4.4.1.2c Option 2 states a “High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of HCVAs	Partially Meets. The RTRS may not meet this directive if a highly biodiverse grassland is not designated as an HCVA
1.1.1 Producers are in compliance with U.S. laws that prohibit altering the habitat where endangered or threatened species are found in such a way that disrupts essential behavioral patterns including but not limited to: breeding, feeding, sheltering	4.5.3 No hunting of rare, threatened or endangered species takes place on the property	Does not meet. The RTRS does not prohibit altering the habitat utilized by rare, threatened, or endangered species. These species could be harmed by soybean production through disrupted breeding, feeding and sheltering allowed by the less-stringent RTRS principle.
1.1.2 Producers are in compliance with U.S. Endangered Species Act	4.5.3 No hunting of rare, threatened or endangered species takes place on the property	Does not meet. The Endangered Species Act protects endangered plants as well as animals. The RTRS does not protect endangered plants.
1.1.3 Producers are in compliance with Highly Erodible Land Conservation program	4.5.2 Good agricultural practices are implemented to minimize impacts on surface and ground water quality from chemical residues, fertilizers, erosion, or other sources... 5.3.2 Knowledge of techniques to control soil erosion is demonstrated and these techniques are implemented.	Substantively Meets. The RTRS does not differentiate highly erodible land (HEL) and doesn’t require more stringent control measures on HEL. The Farm Bill establishes a quantifiable definition of Highly Erodible Land (HEL) based on potential erosion, soil productivity, and certain soil loss factors.

The SSAP and U.S. laws prohibit the conversion of public lands in National Forests and Grasslands (**Directive 1.3.2**). The RTRS states that legal use rights must be clearly defined and demonstrable, and that expansion doesn't occur in areas listed as priority conservation areas or High Conservation Value Areas (HCVAs). In most cases, these Performance Indicators would probably provide the same level of protection, but there are some situations where the RTRS would provide less protection.

SSAP **Directive 1.4** (and **1.4.2**) prohibits the production of soybeans on peatland. The RTRS prohibits expansion into HCVAs, but this Performance Indicator will only protect peatland if it is designated as an HCVA.

SSAP **Directive 1.4.1** requires that producers comply with the Clean Water Act (CWA) regarding agricultural impacts on wetlands. The CWA requires that farming activities not result in a "reduction in reach/impairment of flow or circulation" of waters or destroy the wetlands character of an area. Also, any discharges into wetlands that contain toxic pollutants require a permit. While the RTRS requires the implementation of good agricultural practices to minimize impacts on surface water and groundwater from erosion and pollutants, it doesn't specifically address agricultural impacts on wetlands or identify good agricultural practices.

SSAP **Directive 1.4.3** requires compliance with state laws that prohibit changing peatland in any way without a permit. The RTRS doesn't prohibit changing peatland or require permits for changing peatland.

SSAP Directive	RTRS Principle	Analysis
1.3.2 Producers are in compliance with U.S. laws prohibiting the conversion of public lands in National Forests and Grasslands	<p>1.2 Legal use rights to the land are clearly defined and demonstrable.</p> <p>4.4.1.2c states expansion into native habitat occurs only (option 1) in zones designated for expansion or areas outside priority conservation areas on government CBD or official land use maps, or where no such maps exist, (option 2) a High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of HCVAs</p>	<p>Substantively Meets.</p> <p>The RTRS may not meet this directive if a producing country doesn't have laws to protect public land, and if the land in question is not a High Conservation Value Area.</p>

SSAP Directive	RTRS Principle	Analysis
1.4 Soybeans are not produced on peatland	4.4.1.2c Option 2 states a “High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of HCVAs	Partially Meets. The RTRS may not meet this directive if peatland is not designated as an HCVA
1.4.1 Producers are in compliance with Section 404 of Clean Water Act regarding agricultural impacts on wetlands	4.5.2 Good agricultural practices are implemented to minimize impacts on surface and ground water quality from chemical residues, fertilizers, erosion, or other sources...	Substantially Meets The RTRS doesn’t directly address agricultural impacts on wetlands
1.4.2 Producers are in compliance with U.S. Wetlands Conservation provisions that prohibit production of an agricultural commodity on peatland converted after December 23, 1985	4.4.1.2c Option 2 states a “High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of HCVAs Doesn’t prohibit production on peatland	Partially Meets. The RTRS may not meet this directive if peatland is not designated as an HCVA
1.4.3 Producers are in compliance with applicable state laws that prohibit changing peatland in any way without a regulated permit		Does not meet The RTRS doesn’t prohibit changing peatland or require a permit

SSAP Directive 1.7 requires that producers comply with the Federal Migratory Bird Treaty. This treaty and the U.S. Migratory Bird Conservation Act protect shared migratory bird resources and prohibit the taking, killing, or possessing of migratory birds. The RTRS does not address or protect migratory birds or their resources.

SSAP Directive 1.8 requires that producers file a form with the United States Department of Agriculture (USDA) certifying adherence to Highly Erodible Land (HEL) and wetland conservation laws. This also gives the USDA authority to inspect farms for compliance. While the RTRS requires monitoring within several Performance Indicators, this monitoring is internal, and there is no requirement for

certification, and no authority is given for audits from an outside governing body to ensure compliance.

SSAP Directive	RTRS Principle	Analysis
1.7 Producers are in compliance with Federal Migratory Bird Treaty for protection of shared migratory bird resource	Does not address	Does not meet The Migratory Bird Treaty makes it unlawful to take, kill, or possess migratory birds. The RTRS does not address this issue.
1.8 Soybean producers file appropriate AD-1026 form with authorized auditing body certifying adherence to all applicable laws and regulations	Does not address	Does not meet The AD-1026 form gives the USDA authority to inspect farms for compliance. The RTRS does not require certified adherence to laws and regulations, nor is authority given for an outside auditing body to inspect farms to ensure compliance. US Federal Law under the Farm Bill gives compliance confirmation for Federal programs to USDA authorities; no private organization can provide that confirmation.

SSAP Directive 2.1 states that producers will consider conservation tillage methods and that conservation control measures will increase moisture retention and reduce energy use. RTRS Principle 5.3 states that soil quality is maintained or improved and erosion is avoided by good management practices. While the intended outcomes of these performance indicators are similar, the RTRS does not include the goals of increasing moisture retention and reducing energy use in its recommendation.

SSAP Directive	RTRS Principle	Analysis
2.1.2 Producers will consider conservation tillage methods as appropriate. Conservation control measures will: 2.1.2 increase moisture retention 2.1.5 reduce energy use	5.3 Soil quality is maintained or improved and erosion is avoided by good management practices.	Substantively Meets. The RTRS mostly meets this directive, but the goals of increasing moisture retention and reducing energy use are not addressed.

SSAP Directive 3.1 requires that producers comply with U.S. Environmental Protection Agency (EPA) Worker Protection Standard (WPS) for Agriculture Pesticides meeting regulations for: pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance.

The EPA WPS prohibits applicators from applying pesticide in a way that will expose workers or other persons. (RTRS 5.9.3 & 5.5.4 address exposure, but are less stringent) Workers must be notified about treated areas so they can avoid exposure. (RTRS 5.5.1 requires records, but not necessarily notification) Decontamination supplies must be available to workers and handlers. (RTRS 2.3.7 requires access to first aid, but not decontamination supplies). In case of emergency, transportation to a medical facility must be available for workers, and information must be provided to medical staff regarding the pesticide the worker was exposed to. (RTRS 2.3.7 requires access to first aid and medical assistance without delay, but doesn't require transportation to a medical facility or pesticide information) Basic pesticide safety information must be provided to all workers while they wait for the complete WPS pesticide safety training that is required for all workers within the first 5 days of entering a treated area. Employees must receive pesticide safety training at least once every five years. Basic pesticide safety information includes information about washing before ingesting anything or using the toilet, washing/showering with soap and water and changing clothes after work, washing clothes separately from non-exposed clothing, and washing contaminated skin immediately after direct exposure to pesticides. Pesticide safety posters must be displayed in the workplace. (RTRS 2.2.3 requires training and instruction, but a time frame is not mandated, and training is not specific to pesticide handling. Safety posters are not required) Workers and handlers must be informed of pesticide label requirements, and notice of recent pesticide applications must be posted in a central location. (RTRS 5.5.1 requires records, but does not require notices in a central location) Employers must take all necessary steps to prevent heat illness while personal protective equipment is worn. Heat illness is not addressed by the RTRS.

SSAP Directive	RTRS Principle	Analysis
<p>3.1 Producers are in compliance with U.S. Environmental Protection Agency (EPA) Worker Protection Standard for Agriculture Pesticides meeting regulations for: pesticide safety training, notification of pesticide application, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance.</p>	<p>5.9.3 Aerial application of pesticides carried out in such a way that it does not have an impact on populated areas. All aerial application is preceded by advance notification to residents within 500m of planned application.</p> <p>5.5.1 There are records of agrochemical use including identification of the area where the application was made.</p> <p>5.5.4 Necessary precautions are taken to avoid people entering into recently sprayed areas.</p> <p>2.3.4 Adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide application and mechanized or manual operations.</p> <p>2.3.7 In case of accidents or illness, access to first aid and medical assistance is provided without delay.</p> <p>2.2.3 Appropriate training and comprehensive instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers.</p>	<p>Partially Meets.</p> <p>The EPA WPS prohibits applying pesticide in a way that will expose workers or other persons. Workers must be notified about treated areas so they can avoid exposure. Decontamination supplies must be available to workers and handlers. Transportation to a medical facility must be available for injured workers and pesticide information must be provided to medical staff. Basic pesticide safety information provided to all workers must include information to avoid accidental exposure. Pesticide safety posters must be displayed. Workers and handlers must be informed of pesticide label requirements; pesticide application notices must be posted in a central location. Employers must take all necessary steps to prevent heat illness while personal protective equipment is worn. The RTRS doesn't provide the same level of worker protection and safety measures that the EPS WPS requires.</p>

Directive 3.2 requires that producers comply with the U.S. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). This Act provides federal control over the distribution, sale, and use of pesticides. Noncompliance with FIFRA can result in civil penalties. All pesticides used in the U.S. must be registered by EPA and must be properly labeled with specifications for proper usage to avoid harming the environment. The Worker Protection Standard outlined above is part of FIFRA. RTRS 5.5 requires documentation and monitoring to ensure good practice, but “good practice” is not defined, and no penalties are identified, and there are no labeling requirements. RTRS 5.7 mentions national laws and scientific protocols only for biological control agents.

Directive 3.2.1 states all pesticides are registered with EPA with proper labels and used in accordance with specifications. Misbranding and misuse can lead to civil penalties. RTRS 5.5 requires that all application of agrochemicals is documented and all handling, storage, collection and disposal of chemical waste and empty containers is monitored to ensure compliance with good practice. There is no RTRS requirement for pesticide registration or labeling or use in accordance with label specifications, or penalties.

Directive 3.2.2 requires certification and training for pesticide applicators using restricted use pesticides. RTRS 2.2.3 states adequate and appropriate training and comprehensible instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers, but there is no defined training standard or certification.

SSAP Directive	RTRS Principle	Analysis
<p>3.2 Producers are in compliance with Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).</p> <p>FIFRA provides federal control over the distribution, sale, and use of pesticides.</p>	<p>5.5 All application of agrochemicals is documented and all handling, storage, collection and disposal of chemical waste and empty containers, is monitored to ensure compliance with good practice.</p> <p>5.7 The use of biological control agents is documented, monitored and controlled in accordance with national laws and internationally accepted scientific protocols.</p>	<p>Partially Meets. Noncompliance with FIFRA can result in civil penalties. FIFRA requires registration of all pesticides used in the U.S. and labeling with specifications for proper usage to avoid harming the environment. The Worker Protection Standard is part of FIFRA. The RTRS does not provide the same level of worker protection labeling requirements, safety measures, or penalties that FIFRA and the EPS WPS require.</p>

SSAP Directive	RTRS Principle	Analysis
3.2.1 All pesticides are registered with EPA with proper labels and used in accordance with specifications.	5.5 All application of agrochemicals is documented and all handling, storage, collection and disposal of chemical waste and empty containers is monitored to ensure compliance with good practice.	Partially Meets. Under the EPA, misbranding and misuse of pesticides can lead to civil penalties. There is no RTRS requirement for pesticide registration or labeling or use in accordance with label specifications, or penalties.
3.2.2 Certification and Training required for pesticide applicators using restricted use pesticides	2.2.3 Adequate and appropriate training and comprehensible instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers. 2.3.3 Potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks.	Partially Meets. The RTRS requires “adequate and appropriate training and instructions,” but there is no defined training standard or certification.

Directive 3.6 requires that producers comply with the U.S. Occupational Health and Safety Act (OSHA) to assure safe and healthful working conditions. OSHA requires employers to provide personal protective equipment (PPE) and train workers on proper use of PPE. (2.3.4 requires PPE, but training on proper use of PPE is not required) Under OSHA, Employers are required to record and report all work related fatalities, injuries, and illnesses. There is no equivalent RTRS requirement. OSHA requires employers to provide personal protective equipment (PPE) and train workers on proper use of PPE. RTRS 2.3.4 requires PPE, but training on proper use of PPE is not required. Under OSHA, Employers are required to record and report all work related fatalities, injuries, and illnesses. There is no equivalent RTRS requirement. OSHA requires Employee emergency plans, evacuation plans and Emergency Action Plan training. RTRS 2.3.6 requires accident and emergency procedures with clear instructions, but Emergency Action Plan training is not required. OSHA requires fire prevention housekeeping, hearing protection for noise exposure, process safety management of hazardous chemicals, sanitation, coding of physical hazards, and accident prevention signs and tags. OSHA requires that Roll-over Protective Structures (ROPS) be provided on tractors, and that employees have access to operating instructions, and that they are protected from hazards associated with moving machinery parts. RTRS 2.3.2 requires that health and safety risks be identified, and procedures developed and monitored to address risks, but many of the specific risks identified by OSHA are not addressed.

SSAP Directive	RTRS Principle	Analysis
<p>3.6 Producers are in compliance with Occupational Health and Safety Act to assure safe and healthful working conditions</p>	<p>RTRS 2.3 A safe and healthy workplace is provided for all workers. 2.3.1 Producers and their employees demonstrate an awareness and understanding of health and safety matters. 2.3.2 Relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored. 2.3.3 Potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks 2.3.4 Adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide handling and application and mechanized or manual operations. 2.3.6 Accident and emergency procedures exist and instructions are clearly understood by all workers. 2.3.7 In case of accidents or illness, access to first aid and medical assistance is provided without delay</p>	<p>Partially Meets.</p> <p>OSHA requires employers to provide personal protective equipment (PPE) and train workers on proper use of PPE. Under OSHA, Employers are required to record and report all work related fatalities, injuries, and illnesses. OSHA requires Employee emergency plans, evacuation plans and Emergency Action Plan training. OSHA requires fire prevention housekeeping, hearing protection for noise exposure, process safety management of hazardous chemicals, sanitation, coding of physical hazards, and accident prevention signs and tags. OSHA requires that Roll-over Protective Structures (ROPS) be provided on tractors, and that employees have access to operating instructions, and that they are protected from hazards associated with moving machinery parts.</p> <p>The RTRS requires health, safety, and emergency measures, but many of the specific risks identified by OSHA are not addressed by the RTRS.</p>

Directive 3.7 requires that producers comply with the U.S. Migrant and Seasonal Agricultural Worker Protection Act (MSAP), which provides safeguards to migrant and seasonal agricultural workers. The MSAP states that employers must pay workers the wages owed when due and provide an itemized statement of the workers' earnings and deductions. Employer vehicles that transport workers must meet federal and state safety standards and must be insured. Drivers of said vehicles must be licensed to operate the vehicle. The MSAP also requires that employers comply with the terms of any working arrangement made with workers and that they make and keep payroll records for each employee for three years. These issues are not addressed by the RTRS.

Directive 3.8 requires producers to comply with the Clean Air Act and its amendments to protect and enhance air resources to promote public health and welfare. The Clean Air Act regulates equipment emissions and pollution particle size to minimize pollution and Greenhouse Gas (GHG) emissions. Employers' equipment and machinery must comply with these regulations. RTRS 4.2 requires pollution minimization, but doesn't address or regulate machinery or engine pollutants. RTRS 4.3 requires efforts to reduce emissions and increase sequestration of GHGs, but only addresses fossil fuel use and soil organic matter.

SSAP Directive	RTRS Principle	Analysis
3.7 Producers are in compliance with Migrant and Seasonal Agricultural Worker Protection Act (MSAP) which provides safeguards to migrant and seasonal agricultural workers	2.2.2 Labor laws, union agreements or direct contracts of employment detailing payments and conditions of employment are available in the languages understood by the workers or explained carefully to them by a manager or supervisor.	Partially Meets. The MSAP requires that employers pay workers the wages owed when due and provide an itemized statement of workers' earnings and deductions. Employers must keep payroll records for each employee for three years, and must comply with the terms of any working arrangement made with workers. Employer vehicles that transport workers must meet federal and state safety standards and be insured, and drivers must be licensed. The RTRS provides some labor and safety protection, but does not provide the same protection as the MSAP.

SSAP Directive	RTRS Principle	Analysis
3.8 Producers are in compliance with the Clean Air Act and its amendments to protect and enhance air resources to promote public health and welfare	4.2 Pollution is minimized and production waste is managed responsibly 4.3 Efforts are made to reduce emissions and increase sequestration of GHGs on the farm.	Partially Meets. The Clean Air Act regulates equipment emissions and pollution particle size to minimize pollution and Greenhouse Gas (GHG) emissions. Employers' equipment and machinery must comply with these regulations. The RTRS requires pollution minimization, but doesn't address or regulate machinery or engine pollutants, and emissions and GHGs are only addressed in relation to fossil fuel use and soil organic matter.

Directive 3.9 requires that producers comply with the Resource Conservation and Recovery Act (RCRA), which controls hazardous waste, non-hazardous solid waste, and underground storage, tanks. RCRA has requirements for the storage, disposal, and recycling of common waste materials (batteries, tires, used oil, etc.) and hazardous waste. RTRS 4.2.2 states that there is adequate storage and disposal of fuel, batteries, tires, lubricants, sewage and other waste, and RTRS 4.2.3 states there are facilities to prevent spills of oil and other pollutants. RCRA identifies Hazardous Listed Wastes as those known to be harmful because they are ignitable, corrosive, explosive, reactive, or toxic. RCRA requires that hazardous waste containers be properly labeled with a "Hazardous Waste" indicator and the date that the waste was generated. Waste must be stored in appropriate containers (nonreactive, waste-specific), and containers must be kept closed. Container areas must be inspected weekly, and containers must be maintained in good condition. RCRA prohibits mixing incompatible wastes. Permitting requirements vary depending on the amount and type of waste generated. An employee emergency coordinator and a hazardous waste manifest system may be required. Large waste generators require permits and waste tracking procedures. State regulations govern hazardous waste transportation and the manifest system. Violations of RCRA can result in civil penalties. The RTRS addresses agrochemical storage, disposal, and transportation through principles 5.5.2 and 5.5.3. RTRS 5.5.2 states that (agrochemicals) containers are properly stored, washed and disposed of; waste and residual agrochemicals are disposed in an environmentally appropriate way, but there are no specified requirements for labeling containers, inspecting containers, mixing

wastes, employee emergency coordinators, hazardous waste manifest systems, permits, or tracking procedures. RTRS 5.5.3 states that transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented, but there are no specific requirements to ensure safe transportation and storage.

SSAP Directive	RTRS Principle	Analysis
3.9 Producers are in compliance with the Resource Conservation and Recovery Act (RCRA) which controls hazardous waste, non-hazardous solid waste, and underground storage tanks.	4.2.2 There is adequate storage and disposal of fuel, batteries, tires, lubricants, sewage and other waste. 4.2.3 There are facilities to prevent spills of oil and other pollutants. 5.5.2 (agrochemicals) Containers are properly stored, washed and disposed of; waste and residual agrochemicals are disposed in an environmentally appropriate way. 5.5.3 Transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented.	Partially Meets. RCRA has requirements for the storage, disposal, and recycling of common waste materials and hazardous waste. RCRA regulates containers, labeling and storage of hazardous waste and requires permits for some waste generators. State regulations govern hazardous waste transportation and the manifest system. The RTRS has some requirements for waste and agrochemical storage, disposal, and transportation, but does not provide the protection level that RCRA does.

Directive 4 states that to ensure producers continually seek improvement to production practices and environmental protection, a variety of regulated conservation programs and technology transfer systems for best management practices shall be established. RTRS 1.3 states “There is continual improvement with respect to the requirements of this standard.” To that end, RTRS 1.3.1 states that a review process will identify areas (social, environmental, and agricultural) for improvement, RTRS 1.3.2 states that indicators will be selected and a baseline established in order to monitor improvements. RTRS states that monitoring results will be reviewed so an improvement action plan can be implemented. While purpose of improvement is met by both protocols, the SSAP relies on established, national programs to provide incentive and guide improvements. These programs provide information and technological assistance to help producers establish best management practices and continue to improve. Participation in these programs is voluntary, but producers receive financial incentives to participate, and practices

are reviewed and monitored to make sure that the programs are effective. The RTRS relies on producers to review aspects, choose indicators for improvement, monitor, and create necessary action plans. There is no requirement for outside review or monitoring of this process.

SSAP Directive	RTRS Principle	Analysis
4 To ensure producers continually seek improvement to production practices and environmental protection, a variety of regulated conservation programs and technology transfer systems for best management practices shall be established	<p>1.3 There is continual improvement with respect to the requirements of this standard.</p> <p>1.3.1 Review process identifies social, environmental and agricultural aspects where improvement is desirable.</p> <p>1.3.2 Indicators are selected and baseline established to monitor improvements</p> <p>1.3.3 Monitoring results are reviewed and action is planned and taken to ensure improvement</p>	<p>Substantively Meets.</p> <p>The purpose of improvement is met by both protocols, but the SSAP relies on established, national programs. Participation in these programs is voluntary, but producers receive financial incentives to participate, and practices are reviewed and monitored to make sure that the programs are effective.</p> <p>The RTRS relies on producers to review aspects, choose indicators for improvement, monitor, and create necessary action plans. There is no requirement for outside review or monitoring.</p>

As part of Directive 4, **Directive 4.1** identifies the Conservation Reserve Program, which provides financial incentive to set aside cropland vulnerable to soil erosion or critical to wildlife habitat. The RTRS (4.4.1) prohibits conversion of sensitive land to cropland, but there is no incentive or requirement to set aside cropland for environmental benefit.

Directive 4.2 identifies the Conservation Stewardship Program, which rewards conservation performance across entire operation. The RTRS recommends conservation practices (4.5, 5.1-5.4) but there is no mechanism for rewarding conservation performance.

Directive 4.3 recommends the Environmental Quality Incentive Program, which promotes increased environmental quality of production farmland. RTRS principles 1.3.1, 1.3.2, and 1.3.3 address improvements, and RTRS principle 5.4 recommends

Integrated Crop Management (ICM) techniques to reduce negative environmental and health impacts of phytosanitary products. The RTRS allows producers to choose areas for improvement. If a producer does not choose environmental aspects for improvement, there is no incentive to increase the environmental quality of his farmland.

SSAP Directive	RTRS Principle	Analysis
4.1 Conservation Reserve Program provides financial incentive to set aside cropland vulnerable to soil erosion or critical to wildlife habitat	4.4.1.2c Option 1....If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity are used, and expansion only occurs outside priority areas for conservation shown on these maps. 4.4.1.2c Option 2...there is no conversion of High Conservation Value Areas.	Does not meet. The RTRS prohibits conversion of sensitive land to cropland, but there is no incentive to set aside cropland for environmental benefit.
4.2 Conservation Stewardship Program rewards conservation performance across entire operation		Substantively Compliant. The RTRS recommends conservation practices, but there is no mechanism to reward conservation performance
4.3 Environmental Quality Incentive Program promotes increased environmental quality of production farmland	1.3.1 Review process identifies social, environmental and agricultural aspects where improvement is desirable. 1.3.2 Indicators are selected and baseline established to monitor improvements 1.3.3 Monitoring results are reviewed and action is planned and taken to ensure improvement 5.4 Negative environmental and health impacts of phytosanitary products are reduced by ICM techniques.	Partially Meets. The RTRS allows producers to choose areas for improvement. If a producer does not choose environmental aspects for improvement, there is no incentive to increase the environmental quality of his farmland.

Directive 4.4 recommends the U.S. Agriculture Water Enhancement Program which promotes conservation of surface and ground water and the improvement of water quality on agriculture lands. The voluntary program provides financial incentives, information, and technological assistance for producers who participate. RTRS 5.1.4 requires a documented procedure for applying best practices (according to any existing best practice guidance or legislation) and for measuring water use. There is no incentive for or inherent requirement to conserve water or improve water quality unless it is regulated.

Directive 4.5 identifies the U.S. Wildlife Habitat Incentive Program (WHIP), which promotes the development of wildlife habitat on farm operations. This voluntary program provides technical assistance and up to 75% cost-share assistance to establish and improve fish and wildlife habitat. While RTRS 4.4.1 prohibits expansion for soy cultivation on land cleared of native habitat (except under certain conditions), the RTRS offers no recommendation, support, or incentive for the development of wildlife habitat on farm operations.

SSAP Directive	RTRS Principle	Analysis
4.4 Agriculture Water Enhancement Program promotes conservation of surface and ground water and water quality improvement on agriculture lands	5.1.4 Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to legislation and best practice guidance (where this exists), and for measurement of water utilization.	Substantively Meets. The RTRS recommends best practices, but does not define those practices. If the producer's government doesn't legislate best practices, there are no guidelines for producers. There is no incentive for water conservation or water quality improvement.
4.5 Wildlife Habitat Incentive Program promotes the development of wildlife habitat on farm operations	4.4.1 After May 2009 expansion for soy cultivation has not taken place on land cleared of native habitat except under (certain conditions)	Does not meet. The RTRS offers no recommendation or incentive for the development of wildlife habitat on farm operations.

Directive 4.6 identifies the U.S. Conservation Effects Assessment Project which quantifies the environmental effects of conservation practices and programs across the nation so that environmental BMPs can be determined for managing the agricultural landscape for environmental quality. RTRS principles 1.3.1, 1.3.2, and 1.3.3 address improvements on the farm scale, but the RTRS doesn't offer any

protocol for quantifying the results of conservation practices or programs across a larger, producer scale. The RTRS does not provide guidance, sources, or recommendations on what practices are best for the specific characteristics (soil type, terrain, geography, climate, water source) of a producer's farmland.

Directive 4.7 identifies the Cooperative Conservation Partnership initiative which promotes partnerships between Indian Tribes, state and local governments, producer associations, farmer cooperatives, higher education institutes, and NGOs. The RTRS (principle 3.1) mentions communication and dialogue between producers and the local community regarding topics related to the activities of the soy farming operation and its impacts, however, there is no recommendation for partnerships with local and broader groups; only for communication and dialogue with the local community.

SSAP Directive	RTRS Principle	Analysis
4.6 Conservation Effects Assessment Project quantifies the environmental effects of conservation practices and programs so that environmental BMPs can be determined	1.3.1 Review process identifies social, environmental and agricultural aspects where improvement is desirable. 1.3.2 Indicators are selected and baseline established to monitor improvements 1.3.3 Monitoring results are reviewed and action is planned and taken to ensure improvement	Does not meet. The RTRS doesn't offer any protocol for quantifying the results of conservation practices or programs. It recommends best practices, but the producer is not given guidance, sources, or recommendations on what practices are best for the characteristics (soil type, terrain, geography, climate, water source) of his farmland.
4.7 Cooperative Conservation Partnership initiative promotes partnerships between Indian Tribes, state and local governments, producer associations, farmer cooperatives, higher education institutes, and NGOs	3.1 Channels are available for communication and dialogue with the local community on topics related to the activities of the soy farming operation and its impacts.	Does not meet. The RTRS does not have a recommendation for partnerships with local and broader groups; only for communication and dialogue with the local community. In the US, 3,000 local conservation districts provide communications and interface with agricultural producers on conservation issues.

Directive 4.8 states that the National Sustainable Soybean Initiative will develop BMPs by region and determine BMP adoption rates. The RTRS does not have a corresponding principle, and does not address the development of BMPs by region.

Directive 4.9 states that technology transfer of Best Management Practices is available in numerous informational mechanisms. There is no corresponding RTRS principle that addresses technology transfer mechanisms.

SSAP Directive	RTRS Principle	Analysis
4.8 The National Sustainable Soybean Initiative will develop BMPs by region and determine BMP adoption rates.		Does not meet.
4.9 Technology transfer of Best Management Practices is available in numerous informational mechanisms		Does not meet.

Directive 4.10 recommends that producers and grain handlers consider transportation methods such as barge and rail to reduce greenhouse gas emissions. While RTRS principle 4.3 requires efforts to reduce emissions and increase sequestration of Greenhouse Gases (GHGs) on the farm, the RTRS does not directly address or recommend specific transport methods.

Directive 4.12 states that Field Office Technical Guides customized for local soil and conditions are available in most counties. The RTRS does not identify any sources for local soil and conditions.

Directive 4.13 indicates that raw data used to provide aggregated national data can be scaled down to state or district level crop reporting and that additional information is available for development of quantifying smaller scale sustainability metrics. The RTRS does not address collected data on a national or local scale or how such data can be used.

SSAP Directive	RTRS Principle	Analysis
4.10 Producers and grain handlers will consider transportation methods such as barge and rail to reduce greenhouse gas emissions.	4.3 Efforts are made to reduce emissions and increase sequestration of Greenhouse Gases (GHGs) on the farm.	Does not meet. The RTRS does not address transport methods
SSAP Directive	RTRS Principle	Analysis
4.12 Field Office Technical Guides customized for local soil and conditions are available in most counties		Does not meet.
4.13 Development of Additional Performance Metrics		Does not meet.

About The Author

Dr. Matlock is Executive Director of the UA Office for Sustainability and Professor in the Biological and Agricultural Engineering Department at the University of Arkansas. He received his Ph.D. in Biosystems Engineering from Oklahoma State University in 1996, is a registered professional engineer, a Board Certified Environmental Engineer, and a Certified Ecosystem Designer. Dr. Matlock has authored three books, more than 30 peer reviewed manuscripts, and has been awarded two US patents and five international patents. The focus of Dr. Matlock's research is metrics that inform practices in sustainable design. He evaluates processes at local to global scale to develop technologies and processes to increase the resilience and effectiveness of human-dominated ecosystems. His work encompasses urban, agricultural, and rural systems. Projects focusing on urban and rural ecosystem restoration in collaboration with the UA Community Design Center have been recognized by the leading organizations in architecture, landscape architecture, and sustainable design with 22 national and international awards over the past eight years. He coordinates academic, research, outreach, and facilities efforts in sustainable systems across campus, and has led four international, three national, and two regional sustainability initiatives. He serves as Chair of the Cherokee Nation Environmental Protection Commission, and as science advisor for sustainability for 12 food and agricultural product companies.

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