The Alberta Environmental Farm Plan

Benchmarking Project

August 4th, 2015

Final Report

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

Table of Contents

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

1. The Alberta Farm Plan Benchmarking Project

Control Union, a global leader in sustainable certifications, was commissioned by the Agricultural Research and Extension Council of Alberta (ARECA) to benchmark their Alberta Environmental Farm Plan against three widely used and globally recognized sustainability standards or initiatives. The initiatives were the Sustainable Agricultural Initiative Farmer Self-Assessment (SAI FSA v.2.0), International Sustainability & Carbon Certification (ISCC) and the Unilever's Sustainable Agriculture Code (ULSAC). In recent years, sustainability initiatives and certifications have become a growing procurement trend as major corporations have recognized that food and water availability will become scarce as the global population grows and the emerging markets obtain higher standards of living and increase their demand for meat, dairy and other high input animal proteins commodities

The sustainability norms of ISCC, SAI Self-assessment and Unilever SAC all broadly share conceptual elements within the areas of environmental, social, economic and ethical criteria. Some of these criteria are generically outlined below:

- **Environmental Criteria** soils stewardship and conservation, efficient and judicious use of agrochemicals, nutrient management, biodiversity enhancement and protection, waste, water including assessment of water extraction vs water replenishment. Additional criteria are carbon emissions, protection of peat lands and areas of high carbon value such as native forests and grass lands
- **Social criteria** are composed of Human rights, worker conditions, social protection, employment relations, human development and social dialogue.
- **Management criteria** include economic viability, sustainable management, & supply chain responsibilities.
- **Ethics criteria** include no forced or child labour, anti-corruption and compliance with legislation.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

2. Methodology

Control Union assessed the Alberta Environmental Farm Plan (AEFP) against the Sustainable Agriculture Initiative (SAI) Farm Self-Assessment 2.0., Unilever's Sustainable Agricultural Code (ULSAC), and the International Sustainability and Carbon Certification - PLUS (ISCC PLUS) standards. The overall objective of this project was to make a comparative assessment of the Alberta Environmental Farm Plan against these standards in order to identify matching requirements and to highlight areas that are fully, partially or entirely omitted from the Alberta Environmental Farm Plan.

This benchmark utilized methodology which is consistent with the methods used by Control Union and other certification groups when assessing other agricultural sustainability standards. Each criteria in the Alberta Environmental Farm Plan was compared with each standard using one of the following scoring rankings:

0 = AEFP does not cover this issue

1 = AEFP partially covers this issue

2 = AEFP equivalent to standard in comparison

3 = AEFP exceeds standard in comparison

Scores are calculated for both compliance and for performance. The score for compliance indicates whether the AEFP has met the minimum compliance criteria. The performance score may indicates a score of 3 where the AEFP criteria exceed the minimum compliance criteria. Because compliance is a binary system exceeding the minimum cannot increase a score. When the EFP exceeds the minimum compliance this is can only be reflected in the performance score.

The 'maps' of green, amber, red are used to highlight the gaps or areas that should be strengthened.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

Below is an example of how this benchmark was structured. The ULSAC's agrochemical criteria require more detailed records for chemical applications in comparison to a much more limited record requirement in the AEFP criteria. The example clearly details the criteria of both standards and outlines where they are the same and where differences are noted. A score is given based upon the evidence.

Standard Requirement	AEFP Practices	Comment	Score
3. Agrochemical application record a) Product name b) Active ingredient/ fertiliser type c) Crop area applied to (including location identifier) d) Rate e) Application date f) Operator name g) Re-entry period (CPPs only) h) Pre-harvest interval (CPPs only)	The AEFP covers the Agrochemical application record on the **Chapter 17 Crop Management. Numeral 13. Record keeping** • **Stage of crop and pest development** • **Mapping of pest distribution and density within field** • **Day and time of day when spraying** • **Weather conditions** • **Equipment settings** • **Rates applied**	The AEFP request no cover data of: a) Product name b) Active ingredient/ fertiliser type c) Crop **area** applied to (including location identifier) f) Operator name g) Re-entry period (CPPs only) h) Pre-harvest interval (CPPs only)	A score of **1** was assigned.

*Unilever's SAC – example of how criteria match up on spreadsheet data.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

3. The Alberta Environmental Farm Plan

The AEFP was developed as a tool to assess individual farm risks and to aid in the development of individualized farm plans in order to reduce or control identified environmental risks. Every step in the process is entirely voluntary. The format of the AEFP is that of a work book which describes potential risks and ranks their severity using colour codes. The AEFP provides a clear and comprehensive set of guidelines for the risk assessment of potential environmental contaminants. AEFP participants are asked to develop their plan and address all identified medium and severe risks i.e. red and yellow. Technicians are assigned to assist the producer with their EFP. The technician signs off on the action plan developed by the producer. These technicians facilitate the understanding of the AEFP and determine if the identified risks are being adequately addressed. In some circumstances the EFP is used as a prerequisite for government subsidies provided for infrastructure expenditures.
The AEFP recommends that frequent reviews occur. The action steps in the Farm Plan should be implemented continuously from one year to the next according to the priorities established by the producer. There is no requirement for the producer to annually review their Farm Plan in order to evaluate progress.

Experience shows that once the plans are implemented and payments were received, very few annual reviews occurred and no further continuous improvements were documented. This lack of annual reviews represents a significant omission relative to the three standards, ie ULSAC, ISCC and SAI.

AEFP -Benchmark Result

The strength of the AEFP is in the identification and documentation of agrochemical usage and control to reduce pollution of strengthen management of water and soil resources. Other areas covered in the benchmarked sustainability programs are omitted in the AEFP. These include the aforementioned continuous improvements, efficient water use, biodiversity, social and human capital, economic viability, value chain and ethical criteria. Another weakness of the AEFP is that the compliance is not characterized. It is externalized by using a technician to verify and as a result the limits of acceptable, unacceptable and prohibited criteria are not clearly defined. Fundamentally the AEFP was not designed as a compliance document and so this created the necessity for assumptions in the benchmarking process.

Since there is no enforcement, the AEFP in its current form is of very limited use as a compliance assessment. For the purpose of this benchmark, the criteria are not considered as optional, when the AEFP states that all risk mitigation is at the option of the farmer / owner. They are scored relative to a colour code or risk severity.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

4. The Sustainability Standards / Initiatives

i.) The Sustainable Agriculture Initiative (SAI) - Farmer Self-Assessment (2.0)

SAI is a multi-stakeholder initiative created in 2002 by its founding members Nestle, Unilever and Danone. The stakeholders recognized that the population is growing and is predicted to grow from 6.7 Billion (2009) to 9.7 Billion by 2050. The predicted population growth when coupled with the economic growth and the growing global demand for meat, dairy, fruit and vegetables means that the world's food production will need to double by 2050 in order to meet the growing global demand for milk, dairy and fresh vegetables. Additionally, water shortages are common in many countries and global warming is causing weather patterns to shift.

SAI allows for farmers to self-assess their own sustainable practices.

The SAI Self-assessment is broken down into sections called *Farming System, People, Planet and Profit*.

-"*Farming System"*. It is in this section entitled "sustainable farming systems" that the SAI Platform lists what it considers to be the main elements of sustainable farming. These include section provides general guidance on management practices which protect the natural environment while also protecting the crop. Principles include the selection of crop varieties which are suitable for the soil, climate, and enhanced resistance to pests and disease. Agrochemical management which is designed to protect the people and the environment through comprehensive management practices at all times. Use of pesticides according to the principles of integrated pest management (IPM), knowing the primary pest life cycles, using pesticides in response to predetermined population levels. Soil management requirements are specified. This requires the monitoring of the soil nutrients, building soil conditions and protection against soil erosion, nutrient leaching and emissions of greenhouse gases into the environment. Efficient water use to minimize unnecessary waste of a precious commodity, protection of rare and endangered species and enhancement of biodiversity. Waste streams are included as they are integral to a holistic management program controlling environmental impacts.

-"*People"*. Through the sharing of knowledge, people can make meaningful difference if given the opportunity. Therefore enhancing the health and safety of workers through training is important. Management systems for the storage of chemicals in a safe and secure way, providing clear legible safety signage, the protection of workers during application/re-entry, and adequate safety equipment, all reduce down potential risks as well as offer knowledge on safe practices. Finally, this section also covers the ethical treatment of employees against exploitation and discrimination.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

-The “planet” section focuses on environment. For example biodiversity can add value to the farm system by providing natural predators which can reduce, control or eliminate crop “pests”. Encouraging biodiversity though riparian zones as well as farming practices that reduce down the harmful effect on natural predators are encouraged.

-Finally the “profit” section focuses on economic issues. The importance of a sustainable income or sustainable livelihood is often overlooked. Farmers, farm workers and farm corporations require adequate cash flow to maintain themselves, and invest in equipment and other capital expenditures. This investment is required to improve the productivity of the soil, water and other resources. Maintaining livelihoods, capital improvements and other investments in personnel adds to the efficiency of the enterprise and thereby leads to increased profitability.

SAI- AEFP Benchmark Result:

The AEFP benchmark with the SAI has an overall correlation ranked as 36%. The broad focus of the SAI FSA v.2.0 is reflected in the description above. The weak benchmark score reflects the omission of many criteria in the AEFP such as financial stability, health and safety, community, market access, labour conditions and Green House Gas emissions (GHG). Areas of strong correlation with SAI are agrochemicals, water management, nutrient management, crop protection and soil management. The chart below provides additional detail.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

AEFP summary Scoring sheet

SAI PLATFORM FARMER SELF ASSESMENT 2.0

		AEFP Standard
Economic sustainability		**22%**
	Legal Compliance	17%
	Financial Stability	0%
	Farm Management	70%
	Market Access	0%
Farming system		**76%**
	Planting	50%
	Soil Management	100%
	Nutrient Management	79%
	Crop Protection	59%
	Agro-chemicals	94%
Environmental sustainability		**48%**
	Waste Management	100%
	Water Management	67%
	Biodiversity	20%
	Air	0%
	Greenhouse Gas Emissions	50%
Social sustainability		**0%**
	Labor Conditions	0%
	Health & safety	0%
	Local Community	0%
	Total compliance to SAI	**35%**

	100% or above
	> 0 / <100%
	0%

The weak scores of the benchmark against the SAI FSA v2.0 reflect that whole sections of criteria are omitted from the AEFP. These include economic sustainability, financial stability, and all of the social ethical sustainability criteria. When the AEFP is only scored against common criteria the score is 64% (see Appendix 1).

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

ii.) Unilever's Sustainable Agriculture Code

Unilever's Sustainable Agriculture Code is the most formalized of various corporate initiatives being used around the globe. The intention of the Unilever SAC is to achieve a 100% sustainably sourced supply chain by 2020. The program is a self-assessment with farmers and suppliers being held accountable for the accuracy of their own assessments and spot check audits by a 3rd party to provide an objective oversight. The SAC further divides the general criteria outlined above into 11 chapters. The criteria are divided into *prohibited, mandatory, must* and *should* categories. Farmers and suppliers must score 100% compliance in the *prohibited* and *mandatory* categories and achieve a minimum overall 80% average compliance in the *must* categories. Many of the criteria are common to SAI. However, the *should* criteria exceed the SAI requirements. The *should* criteria are currently optional but may become more heavily weighted in the future.

ULSAC- AEFP Benchmark Result:

A fundamental principle and the first chapter of the ULSAC is continuous improvement. The requirement is repeated again in each of the chapters. The overall score for the ULSAC benchmark is 38% with the strongest correlation being in the agrochemical chapter. Criteria omitted in the agrochemical chapter includes the prohibition of untreated human sewage, the requirements for the risk assessment of agrochemical contamination to workers, neighbors and the environment, nozzle maintenance and replacement, fertilizer spreader calibration, equipment maintenance records kept for minimum 2 years, dry and well ventilated chemical storage areas which are located such that risks in the event of emergencies are minimized. The soil chapter requires a plan to phase out the use of non-renewable resources such as peat and forest top soil. The water chapter requires records of water quality, application records containing rates, dates, method, and location, calibration / maintenance, social and environmental impacts such as recharge of aquafer. The biodiversity chapter scores demonstrate extremely limited correlation with the ULSAC criteria. The ULSAC prohibits the hunting and collecting of rare or endangered species, the identification of species at risk and requires a biodiversity plan to provide enhancement or protection and monitoring of progress with the plan.

Chapter 6 on energy includes greenhouse gas emissions calculation and records of use, an energy management plan and justification for burning of crop residues for field preparation. The waste chapter requires records which identify and describe major waste streams, their management and justification for lack of implementation of the 3R's (reduce, reuse and recycle) and disposal by burning. None of the SAC criteria in chapters 8 and 9, (i.e. social and human capital and animal welfare) are addressed by the AEFP.

Finally, in Chapter 11, it is required that there be records of all training for employees, which is not addressed by the AEFP.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

AEFP summary Scoring sheet

Unilever Sustainable Agriculture Code

			AEFP Standard
1. Overall continuous improvement			0%
2. Agrochemicals and fuels			74%
	Records		65%
	Nutrient Management	Mandatory	50%
		Good Practices	93%
	Pest Management	Mandatory	86%
		Good Practices	81%
	Agrochemical Safety and Risk Assessment	Good Practices	65%
	Agrochemical and Fuel Storage and Equipment	Good Practices	76%
3. Soils			47%
	Records		42%
	Continuous Improvement		0%
	Soil Management	Mandatory	100%
		Good Practices	45%
4. Water			60%
	Records		0%
	Continuous Improvement		100%
	Water Management	Mandatory	100%
		Good Practices	39%
5. Biodiversity			1%
	Records		0%
	Continuous Improvement		0%
	Biodiversity Protection and Enhancement	Mandatory	0%
		Good Practices	5%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

6. Energy			**15%**
	Records		17%
	Continuous Improvement		0%
	Energy Management	**Mandatory**	0%
		Good Practices	43%

7. Waste			**44%**
	Records		0%
	Continuous Improvement		50%
	Waste Management	**Mandatory**	100%
		Good Practices	26%

8. Social and Human Capital			**0%**
	Records		0%
	Social and Human Capital	**Mandatory**	0%
		Good Practices	0%

9. Animal Welfare			**0%**
	Records		0%
	Animal Welfare	**Mandatory**	0%
		Good Practices	0%

10. Value chain & local economy			**10%**
	Value chain & local economy	**Mandatory**	0%
		Good Practices	20%

11. Training			**28%**
	Records		0%
	Training Requirements		55%

Total compliance to ULSAC	**38%**

	100% or above
	> 0 / <100%
	0%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

The overall scores for the ULSAC are weak and reflect that many criteria contained in the ULSAC are excluded from the AEFP. These include whole chapters of the ULSAC for continuous improvement, biodiversity, social and human capital, animal welfare, value chain and local economy. When the AEFP is scored only against the shared chapters of the ULSAC the score is 62% (see Appendix 1).

iii.) International Sustainability and Carbon Certification (ISCC)

The ISCC program was developed in 2010 in Germany as one of several standards designed to meet the European Renewable Energy Directive (RED). It was developed with assistance of the German Federal Ministry of Food, Agriculture and Consumer Protection (BLE) and Meo Carbon Solutions GbmH to comply with the requirements of the RED with respect to feedstock sustainability and green-house gas calculations. Over time additional criteria have been added to cover food, feed, technical/chemical (e.g. bioplastics) and other bioenergy applications.

The ISCC program covers the primary production of agricultural feed stocks on-farm, waste residues as well as the chain of custody and traceability of these materials through the supply chain. The agricultural element is known as the production of sustainable biomass and is based upon six principles plus the producer's greenhouse gas emissions.

ISCC contains 112 questions in the farmer audit. The criteria are separated into "major musts" and "minor musts". All majors must be met and a minimum score of 60% is required for compliance with the minor musts.

ISCC plus add-ons were created to meet the more specific requirements of food, feed and chemical / technical and bioenergy. These added criteria include: traceability, chain of custody, mass balance, segregation and on farm GHG emissions. Add on 202-01 contains specific biodiversity requirements.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

ISCC- AEFP Benchmark Result:

The benchmark indicates that the strongest correlation is in Principle 2 –Biomass shall be produced in an environmentally responsible way. Benchmark score for this Principle is 61%. AEFP score deductions are for generally less stringent and weaker documentation requirements, lack of restriction on nitrogen applications to frozen or water logged soils or prohibition for untreated sewage. Partial compliance related to Principle 3 was given due to the fact that overall practices fail to detail preventative management to ensure worker safety, such as a safety plan, hazard identification, accident procedures, first aid kits, provision of clean food storage, habitable housing and documented worker competence and training. For Principle 5 and its relation to national and regional legal compliance, it was noted the AEFP only references legal compliance and it is not contained in the main body of the document. For Principle 6- the documentation required for each production unit must be maintained for a minimum of 3 years and even contractors must provide evidence of compliance. There exists no correlation between Principle 1 for the preservation of high conservation value (HCV) lands such as wet lands, natural grasslands or forest lands and the AEFP. Finally, under Principle 4, there exists no criteria in the AEFP on human rights, responsible labour conditions, and worker welfare and community relations.

The add-on sections for ISCC plus its standard 202-01 indicates very weak correlation for biodiversity due to lack of described management and partial compliance for the soils, water, and energy sections also due to weaknesses in described management plans.

The add on ISCC plus 202-02 is evidenced that the AEFP should strive to ban highly hazardous chemicals that are listed in the World Health Organizations (WHO) Classes 1A and 1B, and those listed in the Stockholm and Rotterdam Conventions. They should also require producers to reduce and actively seek alternatives to WHO class 2 chemicals (e.g. paraquat) by establishing a time bound plan for phasing out their use.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

AEFP summary Scoring sheet

ISCC PLUS

	AEFP Standard
PRINCIPLE 1: Biomass shall not be produced on land with high biodiversity value or high carbon stock (according to Article 17(3), (4) and (5) of the Directive 2009/28/EC. HCV areas shall be protected.	0%
PRINCIPLE 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices	***61%***
Environmental impact assessment and stakeholder consultation	0%
Natural water courses	100%
Soil conservation and avoidance of soil erosion	75%
Soil organic matter and soil structure	60%
Ground Water and Irrigation	70%
Use of Fertilizer	69%
Integrated Pest Management (IPM)	100%
Use of Plant Protection Products (PPP)	56%
Plant Protection Product Storage	86%
Empty Plant Protection Product Containers and Waste Disposal	92%
PRINCIPLE 3: Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents	***17%***
Safe Working conditions	17%
Plant Protection Product Handling	17%
PRINCIPLE 4: Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations. (ILO standards: ILO 29, 105, 138, 182, 87, 98, 100, 111)	0%
PRINCIPLE 5: Biomass production shall take place in compliance with all applicable regional and national laws and shall follow relevant international treaties	25%
PRINCIPLE 6: Good management practices shall be implemented	25%
Greenhouse Gas Emission Calculation	25%
Total compliance to ISCC PLUS	**35%**

	100% or above
	> 0 / <100%
	0%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

ISCC PLUS Add On 202-01

	AEFP Standard
Soil Management Plan	64%
Water Management Plan	57%
Energy Management Plan	50%
Biodiversity Management Plan	7%
Total compliance to ISCC Add-On 202-01	34%

ISCC PLUS Add On 202-02

	AEFP Standard
Exclusion of extremely and highly hazardous chemicals	0%
Phase out plan for moderately hazardous chemicals and Persistent Organic Pollutants	0%
Total compliance to ISCC Add-On 202-02	0%

The scores for the ISCC Plus benchmark reflect a relatively poor correlation because of the omissions of the criteria or Principles 1, 3 and 4 from the AEFP. If the benchmark is rescored excluding ISCC Principles which are omitted from the AEFP i.e. Principle 2, 5, 6, Green House Gas Calculation and add-ons then the resulting score would be 72% (see Appendix 1).

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

5. Conclusion

The benchmarks with Unilever's Sustainable Agriculture Code, the Sustainable Agricultural Initiative Farmer Self-Assessment 2.0 and International Sustainability and Carbon Certification demonstrate that the Alberta Environmental Farm Plan does not adequately meet the compliance criteria of any of these programs. The AEFP has not been designed to be a compliance document. It has been designed as a workbook to identify environmental hazards. In order to perform this benchmark it was necessary to consider each of the risks described in the AEFP as a compliance point. Enforcement, continued improvement, annual reviews, corrective actions and minimum acceptable standards are all absent from the document because it was intended to be a voluntary program. It's strengths lie in environmental stewardship and pollution abatement. Extensive changes would be required to transform it into a compliance document similar to the three benchmarked standards.

As a risk assessment management tool, it primarily identifies weaknesses in agrochemical management. In this area it has clear strengths and in some cases it exceeds the minimum requirements to meet compliance with the aforementioned standards. It provides descriptions of severe and moderate risks and potential controls for reduction of pollutants and good soil management. Sustainability initiatives used for this benchmark share similar goals and objectives. These common concepts are described the SAI FSA v2.0, as financial stability, a respect for workers and their protections, and environmental stewardship. While the 3 standards and initiatives are not identical in their compliance criteria they share more commonality than differences.

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

Appendix 1

Please find here the scores of each respective standard compared to the Alberta Environmental Farm Plan (AEFP) when removing those sections of each standard that are not addressed by the AEFP.

Scoring for SAI Farmer Self Assessment 2.0 sections addressed by AEFP

	AEFP Standard
Economic sustainability	_
Legal Compliance	17%
Farm Management	70%
Farming system	**76%**
Planting	50%
Soil Management	100%
Nutrient Management	79%
Crop Protection	59%
Agro-chemicals	94%
Environmental sustainability	**47%**
Waste Management	100%
Water Management	67%
Biodiversity	20%
Air	0%
Greenhouse Gas Emissions	50%
Score	**64%**

	100% or above
	> 0 / <100%
	0%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

Scoring for ULSAC sections addressed by AEFP

		AEFP Standard
1. Overall continuous improvement		0%
2. Agrochemicals and fuels		**74%**
Records		65%
Nutrient Management	Mandatory	50%
	Good Practices	93%
Pest Management	Mandatory	86%
	Good Practices	81%
Agrochemical Safety and Risk Assessment	Good Practices	65%
Agrochemical and Fuel Storage and Equipment	Good Practices	76%
3. Soils		**47%**
Records		42%
Continuous Improvement		0%
Soil Management	Mandatory	100%
	Good Practices	45%
4. Water		**60%**
Records		0%
Continuous Improvement		100%
Water Management	Mandatory	100%
	Good Practices	39%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

6. Energy			15%
	Records		17%
	Continuous Improvement		0%
	Energy Management	Mandatory	0%
		Good Practices	43%

7. Waste			44%
	Records		0%
	Continuous Improvement		50%
	Waste Management	Mandatory	100%
		Good Practices	26%

11. Training		28%
	Records	0%
	Training Requirements	55%

Score	62%

	100% or above
	> 0 / <100%
	0%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com

Scoring for ISCC PLUS addressed by AEFP

	AEFP Standard
PRINCIPLE 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices	***61%***
Environmental impact assessment and stakeholder consultation	0%
Natural water courses	100%
Soil conservation and avoidance of soil erosion	75%
Soil organic matter and soil structure	60%
Ground Water and Irrigation	70%
Use of Fertilizer	69%
Integrated Pest Management (IPM)	100%
Use of Plant Protection Products (PPP)	56%
Plant Protection Product Storage	86%
Empty Plant Protection Product Containers and Waste Disposal	92%
PRINCIPLE 5: Biomass production shall take place in compliance with all applicable regional and national laws and shall follow relevant international treaties	25%
PRINCIPLE 6: Good management practices shall be implemented	25%
Score	**72%**

	100% or above
	> 0 / <100%
	0%

OFFICE • 173 Forester Street • Suite 103 • North Vancouver • British Columbia V7H 0A6 • Canada
T +604 988 8484 • Canada@controlunion.com • www.controlunion.com