



INTEGRITY GROWN™

is a regenerative standards verification initiative by **Advancing Eco Agriculture** to promote transparency and vital regenerative practices in crop production.

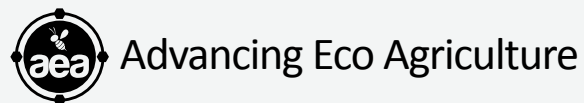
Founded in 2006 by Chief Vision Officer John Kempf, **Advancing Eco Agriculture** has pioneered the regenerative agriculture space, creating on-farm solutions by pairing a powerful range of effective liquid mineral nutritional and biological products and data-based agronomic consultation, including plant sap analysis, to inform precise crop management protocols and measure success. AEA is dedicated to providing comprehensive regenerative farming education and thought leadership.

AEA regenerates and restores soil and plant health to support natural biological processes, looking beyond symptoms by diagnosing root causes and providing treatments. AEA is committed to reducing and eliminating herbicides and pesticides that inhibit natural growing systems.

This whole-systems approach to revitalizing soil and plant health is informed by Five Core Concepts:

- Crops can become completely resistant to pests and diseases
- Mineral nutrition supports plant immunity
- Microbial metabolites are a more efficient source of nutrition
- Quality drives yield
- Healthy plants create healthy soil

With the same cultural ethos and value system at the heart of the organization today, AEA proudly introduces **Integrity Grown™**, a pioneering data-driven standards and verification program that is a bold step to both foster regenerative practices and drive demand for regenerative products in the marketplace.



INTEGRITY GROWN PROGRAM GOALS

Measure the results of growers' adopted set of regenerative practices to yield clear, data-supported tangibles that hold up under scrutiny. Each farm goes through an in-season verification and scoring process every year, no matter where it is on the transformative journey of incorporating regenerative management solutions. Crop outputs are tested to ensure Integrity Grown™ standards translate into trust in growing practices that provide assurances not only to the end consumer, but to the supply chain stakeholders as well.

These standards give integrity, transparency, and accountability to on-farm processes that translate into assurance for the customer. Crop harvests on verified acreage are tested to ensure adherence with the standards.

Reward farmers for their historical, current, and future cultural practices and highlight a growers' tenure in a regenerative management program. Growers are awarded or, in some cases, deducted points based on the assessed practices or inputs. Points from each evaluation category are totaled and used to determine their Gold, Silver, or Bronze status in recognition of the extent of their regenerative practice adoption and reduction of the impacts of detrimental practices. Localized county or regional averages are used to evaluate the detrimental applications or practices.

Share results among growers and across the industry stakeholders by clearly demonstrating what outcomes growers attain as they work in conjunction with AEA's products, agronomic approaches, and services to increase adoption of regenerative practices and decrease instances of detrimental impacts. For example, in conjunction with the recommendations of AEA agronomy, in the 2023 growing season, 5 of 7 participating cotton producers were able to eliminate all use of PGRs, insecticides, and fungicides.

Promote the outcomes of regenerative practices to demonstrate the net effect of accountability and transparency by substantiating practices throughout the industry supply chain to drive demand for regenerative crop production and end-goods. An example of an outcome would be to show how use of applied biology can mitigate the effects of glyphosate use.

How the Integrity Grown Program Works

An AEA team member will come on-site for testing and sampling throughout the season. (Where appropriate, agronomic consulting and advice may be provided by AEA as a separate, paid service.)

All analytics are conducted by independent laboratories.

THE SCORECARD

Crop management practices on verified program acreage are tracked and evaluated with the Integrity Grown Regenerative Standards Scorecard, shown on the following pages. The baseline values of the measurements and conditions below are derived from regional averages and historical fertilizer application rates.

THE MEASUREMENTS

Using cotton as an example, key evaluative measurements for crop production include:

Pesticide, Herbicide, and Fungicide Use

Synthetic Fertilizer Use

Although fertilizers tend to suppress soil biology, their judicious use may be necessary in certain contexts. This is reflected by graduated score deductions.

Plant Growth Regulator (PGR) Use

Non-GMO Seed Adoption

Non-GMO seed has the capacity to create strong symbiotic biological relationships within the rhizosphere, which is key to both plant and soil health.

Nitrogen Efficiency Practices

By complexing applied nitrogen with soil biology and minerals, a steady release of nitrogen can be provided in accordance with crop demand. This can reduce dependency and cost of nitrogen inputs and creates a path to total elimination of applied N.

Beneficial Biological Treatment

Beneficial soil biology plays a vital role in soil and plant health, but populations are often limited or missing completely due to historical practices and current overall soil health. A grower's status is positively affected by beneficial soil or plant surface-applied biology.

Compost Use

Compost is a multi-tool of soil and crop health, and when chosen as a nutritional or soil health input, far outweighs synthetic inputs.

Cover Crop Use

Cover crops improve and expedite soil health and contribute to water management efficacy.

Livestock Grazing

Although not available as an option for every on-farm context, managed livestock grazing on a designated production area holds much value as a holistic practice.

Plant Sap Analysis

Testing plant leaf sap allows insight into the nutrients taken up into plant tissues and in play at the time of sampling. The resulting 23 points of data provide insight into nutrient deficiencies and excesses that can inform future plant nutrition applications. This testing is undertaken at several points throughout the growing season.

Soil Testing

Applying a one-size-fits-all approach to soil testing and the resulting increase of organic matter is a complicated subject. In response to these challenges, pre-season and post-harvest soil testing will be carried out each year for every farm in the verification process.

This may include, but is not limited to:

- Haney and Melich III analyses
- Total mineral assay
- Soil aggregate stability
- Water penetration

Multi-depth Soil Testing

This measures organic matter at various depths of the first 3, 6, and 12 inches.

Soil Herbicide Testing

Soil Biology Testing

With the development and availability of viable testing tools and increased understanding of the vital role of beneficial soil biology and fungal populations, Integrity Grown™ standards will capture this data throughout the growing season with the future aim of building metrics around this important facet of regenerative agriculture.

Pesticide Residue Testing

Tillage Events

The standard recognizes that the use of tillage is nuanced and not simply good or bad, depending upon its use case and application. Tillage, when correctly implemented, can be a vital tool to promote necessary soil gas exchange, water penetration, and removal of limiting compaction layers in the soil profile. Tillage events as part of our verification process are therefore classified in two categories:

Primary Tillage Event

Certain soil types and weather patterns require that in many geographical areas of cotton production the soil bed needs to be prepared or shaped prior to planting or to prevent initial cotton growth from being impacted in areas of high rainfall and heavy soils. In these types of circumstances primary tillage events can be deemed acceptable especially when accompanied with other soil health practices, e.g. planting cover crops. Verification will determine the scoring per grower and context.

Secondary Tillage Event

Organic cotton and minimal-till operations will often deal with potential weed pressure through mechanical intervention (surface tillage). Use of secondary tillage events should be judicious, minimal and followed up by beneficial soil health practices to mitigate any negative impact. Secondary tillage actions shall not exceed a soil depth of 3-4 inches.

IN-SEASON TESTING TIMELINE

There are various, plotted touchpoints during the season when soil and crop testing occur as well as evaluations of operational practices. For example, at the earliest point in the season, and again postseason, a Haney soil analysis is performed to measure organic matter and biological activity levels. Cover cropping and livestock grazing during the previous season is evaluated on verified acreage and counts toward the new season. Any actions taken by the grower that bear a negative impact on the end score (anhydrous, MAP, or pre-emergent usage) are noted. Plant sap analysis is taken at intervals throughout the crop life cycle to inform precise, corrective nutrient applications. Crop and soil residue testing yields data that measures gains, provides insights and accountability, and identifies goals and practices for the following season.

DERIVING A FINAL SCORE

When all factors from both historical and in-season testing evaluations have been completed, crop yield data is analyzed, the program's Scorecard values are tabulated, and the final number yields the score designation of bronze, silver, or gold.



INTEGRITY GROWN™ REGENERATIVE STANDARDS SCORECARD

Points from each category are tallied and the total points are used to determine the grower's *Bronze, Silver or Gold Status* in recognition of their efforts.

GROWER:		% REDUCTIONS ARE BASED ON HISTORICAL FARM NUMBERS AND REGIONAL APPLICATION RATE AVERAGES					VALUE
INSPECTOR	FULL ELIMINATION	>75%	>50%	>25%	>15%	VALUE	
PESTICIDE/INSECTICIDE*	5	4	3	2	1		
HERBICIDE*	5	4	3	2	1		
FUNGICIDE*	5	4	3	2	1		
PLANT GROWTH REGULATOR*	5	4	3	2	1		
	USE	>75%	>50%	>25%	>15%	VALUE	
ANHYDROUS AMMONIA	-10	-10	-10	-10	-10		
DAP	-10	-10	-10	-10	-10		
POTASSIUM CHLORIDE	-10	-10	-10	-10	-10		
CALCIUM NITRATE*	-5	-4	-3	-2	-1		
UAN*	-5	-4	-3	-2	-1		
MAP*	-5	-4	-3	-2	-1		
	NO TILLAGE EVENT	1 TILLAGE EVENT		2 TILLAGE EVENTS		VALUE	
PRIMARY TILLAGE EVENT	5	-2		-5			
SECONDARY TILLAGE EVENT	5	-2		-5			
	ALL ACERAGE	>75%	>50%	>25%	>15%	VALUE	
COVER CROP (SINGLE OR MULTI-SPECIES)	5	4	3	2	1		
NON-GMO COTTON SEED	5	4	3	2	1		
BENEFICIAL BIOLOGY	4						
COMPOST	2						
LIVESTOCK GRAZING	2						
NITROGEN EFFICIENCY MANAGEMENT	2						
SCORE DESIGNATION 41-50 GOLD · 25-40 SILVER · 15-24 BRONZE						TOTAL	

*SEE REVERSE



INTEGRITY GROWN™ REGENERATIVE STANDARDS SCORECARD

Supplemental Calculations

	SUPPLEMENTAL GROWER SCORING CALCULATIONS:	
	REGIONAL AVERAGE APPLICATION RATES	HISTORICAL ON-FARM AVERAGE APPLICATION RATES
	VOLUME/ACRE OR HECTARE (FROM NASS OR CERTIFICATION AGENCY)	PREVIOUS YEAR
PESTICIDE/INSECTICIDE		
HERBICIDE		
FUNGICIDE		
PLANT GROWTH REGULATOR		
CALCIUM NITRATE		
UAN		
MAP		

Tillage Events – The standard recognizes that the use of tillage is nuanced and not simply good or bad, depending upon its use case and application. Tillage events as part of our verification process are therefore classified in two categories:

Primary Tillage Event – A preparatory tillage practice specific to geographic areas where mounding or heaping of the bed is necessary due to heavy soils or high rainfall.

Secondary Tillage Event – Includes tillage events of mechanical intervention (e.g. weed control). Secondary tillage events should be judicious, minimal, and not exceed a soil depth of 3-4 inches.

Cover Crop Use – Cover crops improve and expedite soil health and contribute to water management efficacy.

Non-GMO Seed Adoption – Non-GMO seed has the capacity to create strong symbiotic biological relationships within the rhizosphere, which is key to both plant and soil health.

Beneficial Biology – Growers' status is positively affected by beneficial soil or plant surface-applied biology.

Compost – Compost is a multi-tool of soil and crop health, and when chosen as a nutritional or soil health input, far outweighs synthetic inputs.

Livestock Grazing – Although not available as an option in every on-farm context, managed livestock grazing on a designated production area holds much value as a holistic practice.

Nitrogen Efficiency Management – By complexing applied nitrogen with soil biology and minerals, a steady release of nitrogen can be provided in accordance with crop demand. This can reduce dependency and costs of nitrogen inputs and creates a path to total elimination of applied N.



For more information, visit
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