



Land O'Lakes SUSTAIN

Farmer-owned and farmer-driven stewardship

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LAND O'LAKES, INC.

**The agricultural industry is
where our biggest global
challenges play out.**

We need to grow more with less and conserve our resources

CLOSING THE FOOD GAP



60%

Required increase in food calories to feed 9 billion people by 2050

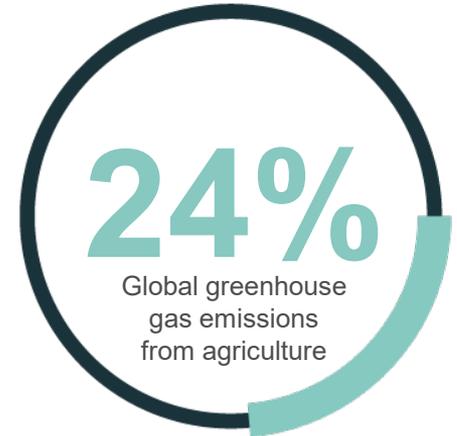
SUPPORTING ECONOMIC DEVELOPMENT



28%

Global population directly or indirectly employed by agriculture

REDUCING ENVIRONMENTAL IMPACT



Prices Creep Higher Ahead of Fall Applications- DTN

*Des Moines Water Works cannot win damages in nitrate case
-Des Moines Register*

*Overuse of farm fertilizer drives state's first effort to regulate it
-Minnesota Star Tribune*

*In the Heart of the Corn Belt, an Uphill Battle for Clean Water
- Yale 360*

*Controversial Des Moines Water Works Lawsuit Calls For Farmers to Clean Up Drinking Water
- Civil Eats*

U.S. Farmers Make Conservation Decisions that Impact...

915 Million Acres

47% of land in continental U.S.





LAND O' LAKES, INC.

2018

Increasing importance of sustainability

Consumers are increasingly considering sustainability issues in their purchase decisions.

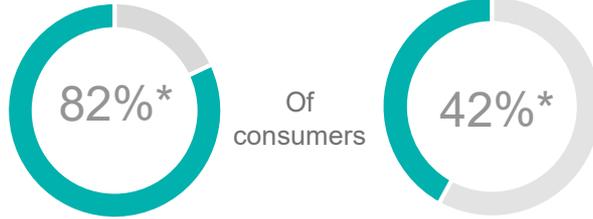


Today's consumer



Value + Values

SUPPORTING EVIDENCE



in emerging markets, and . in developed markets

*“believe they have a responsibility to purchase products that are good for the environment and society”**

86% of US Consumers

Expect Companies to Act on Social, Environmental Issues***

Companies see up to **20%** price

premium and **20%** revenue growth from corporate social responsibility**





Increasing rise of private label brands and commoditization of categories

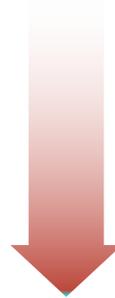
THE RISE AND RISE AGAIN OF PRIVATE LABEL

"There is a new retail revolution underway. . . We're talking about the development of private-label products and the new challenges that this will present for brands and manufacturers across the globe. . ."

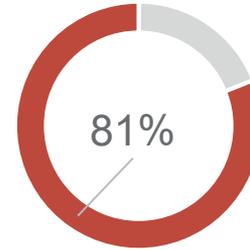
- Nielsen 2018*



SUPPORTING EVIDENCE



Loyalty to Mega Brands is decreasing
90%
of Top 100 CPG Brands losing market share**



Of consumers buy private label products at grocery***

***In 2017, private brands outpaced national brands by **8%**



Sources*AT Kearney survey, Fortune, Euromonitor, IBIS World, Nielsen survey, EcoFocus Worldwide Study, **
*<https://www.nielsen.com/us/en/insights/reports/2018/the-rise-and-rise-again-of-private-label.html> ***Damon Private Brand Intelligence Report 2018

LAND O'LAKES
SUSTAIN[®]

Why Land O'Lakes SUSTAIN

Dairy
Foods

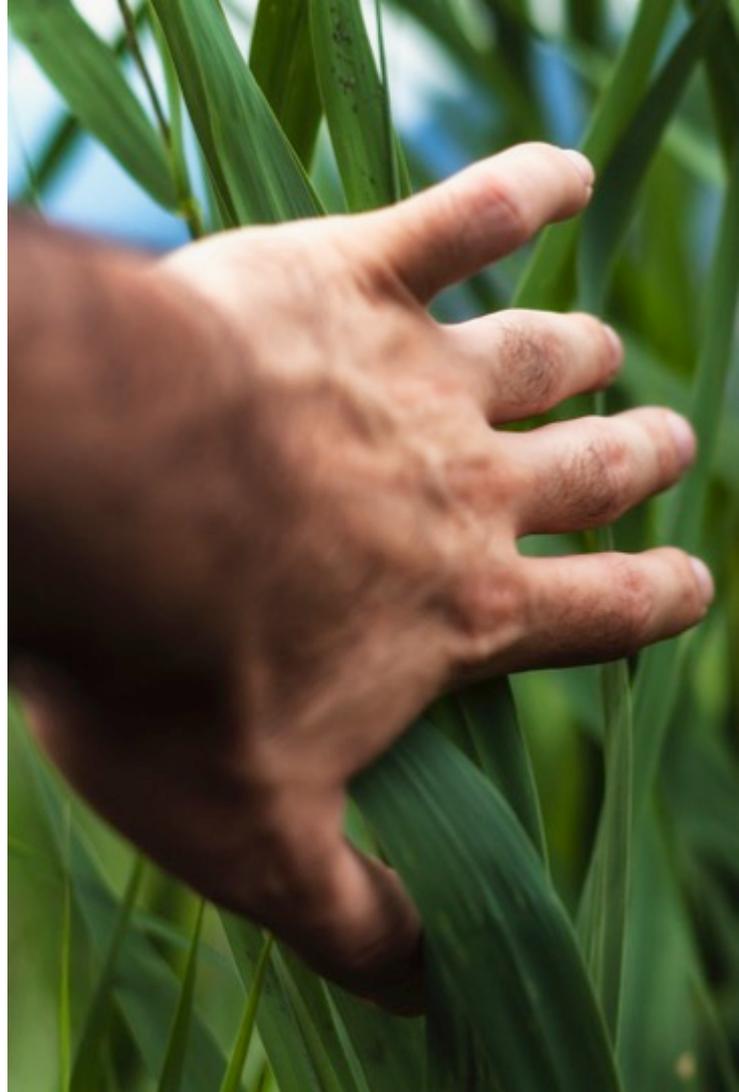
Purina

Winfield

SUSTAIN

With nearly 4,000 members the Land O'Lakes network touches:

- **25%** of America's crop farmers
- **30%** of American animal protein
- **50%** of America's harvested acres
- **90%** of America's grocery retail outlets



Systemic Solutions Throughout the Value Chain

- Meet farmers where they are on their stewardship journey
- Creating conservation solutions acre-by-acre & animal-by-animal
- Using data-driven insights to create customized stewardship recommendations by farm and for every business



DELIVERING



Unmatched scale and capability to engage farmers in advancing conservation solutions across millions of acres of farmland

COLLECTING

On-farm data to help farmers continuously improve their stewardship and help consumers understand how their food was produced



CONNECTING

The food and agriculture value chain – bringing together company-level sustainability commitments and acre-by-acre conservation





TRU TERRA

**Advancing farmer led
stewardship through
conservation practices**

TRU TERRA

**Across a wide array of
crops & geographies**

**Applicable throughout
the industry**

TRUTERRA

As a leader in scaling private-sector conservation solutions, Land O'Lakes SUSTAIN is taking the next step in farmer-led and farmer-driven sustainability through Truterra™

Suite of on-farm stewardship offerings

- Insights Engine is the cornerstone technology
- SoilVantage
- Other tools

Truterra™ Insights Engine

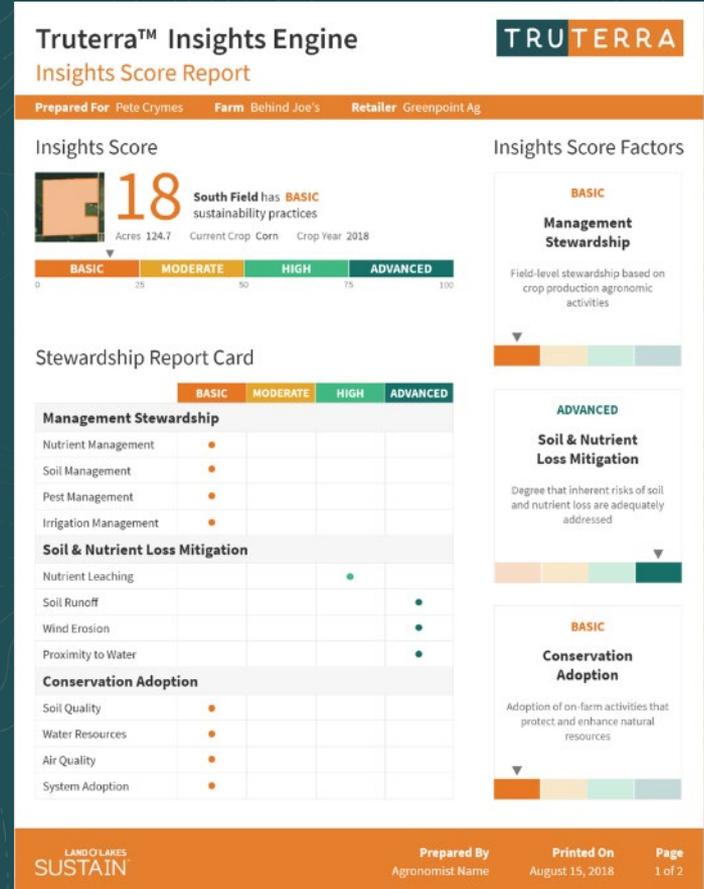
Truterra Insights Score

Yield and Profit Insights

Stewardship Indicators

Field Print Calculator 3.0

Walmart Gigaton Challenge



Profit Insights

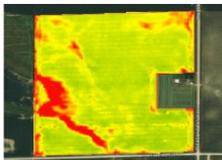
Current Field Information

Grower Name Pete Crymes
Farm Name Behind Joe's
Field Name South Field
Field Size 124.7 acres
Current Crop Corn
Crop Year 2018

Select Comparison Scenario:

- Enhanced Nitrogen Practices
- Improved Residue Cover
- Strip Tillage
- Interseeded Winter Cover
- Post Harvest Winter Cover
- Contour Conservation Management
- Terrace Conservation Management
- Profit Focused Conservation Cover
- Build custom practice

Current Practices



Profit Map

Profit Performance Estimate

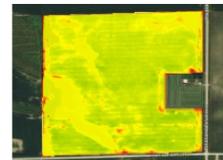
Acres	124.7	
Yield	170.5	bu/ac
Profit	-6.13	\$/ac
Total Profit	-877.87	\$
ROI	-0.8	%

Stewardship Performance Estimate

Insights Score	18	
Soil Erosion	27.7	
Soil Quality	-	
Emissions	16.6	

Selected Comparison Scenario:

Profit Focused Conservation Cover



Profit Map

Profit Performance Estimate

Acres	109.8	
Yield	180.9	bu/ac
Profit	37.55	\$/ac
Total Profit	5,381.44	\$
ROI	5.4	%

Stewardship Performance Estimate

Insights Score	41	
Soil Erosion	15.1	
Soil Quality	-	
Emissions	15.8	

Potential Revenue Opportunities

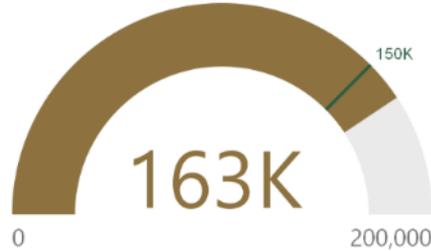
No revenue opportunities were found for this practice set.

[View all revenue opportunities →](#)

SUSTAINABILITY SUMMARY

-  **129**
GROWERS
-  **1,269**
FARMS
-  **1,854**
FIELDS
-  **163k**
ACRES

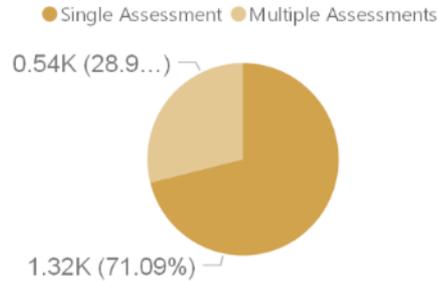
ACRES ASSESSED OF 150,000 ACRE GOAL



ACRES BY CROP



ASSESSMENTS PER FIELD



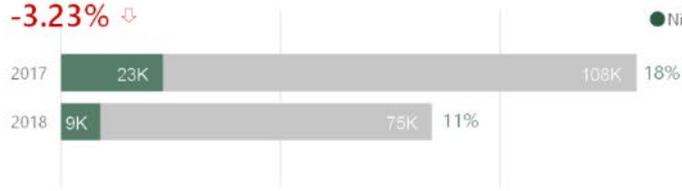
ACRES BY YEAR



NUTRIENT MANAGEMENT

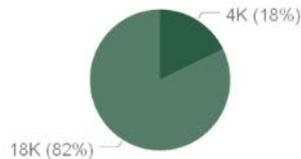
ACRES USING A NUTRIENT MODEL

-3.23% ↓



NUTRIENT MODEL METHOD BY ACRE

● Nitrogen Model & Phosphorous Index ● Nitrogen Model



VARIABLE RATE USE

N	P	K	Acres
			63,029
			36,573
			5,955
			2,228
			1,529
			743

ACRES USING VARIABLE RATE TECHNOLOGY

3.50% ↑

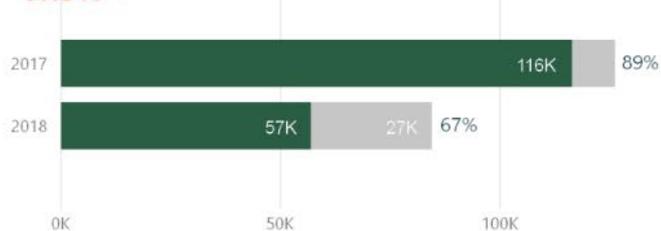


SAMPLING METHOD USE

Soil Nitrate	Stalk Nitrate	Tissue Sampling	Acres
			27,459
			4,009
			3,594
			1,009
			713
			178
			146

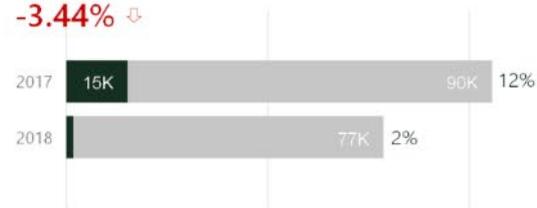
ACRES USING SAMPLING METHODS FOR DECISIONS

-0.19% ↓



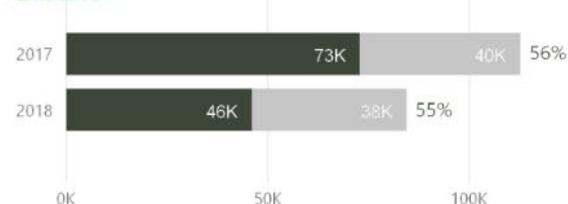
ACRES WITH NUTRIENT MANAGEMENT PLAN

-3.44% ↓

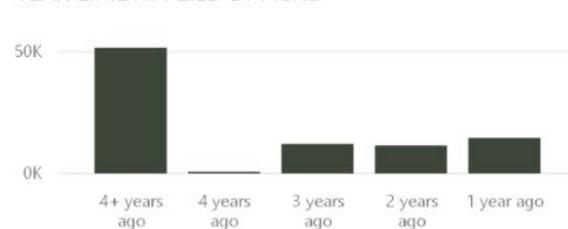


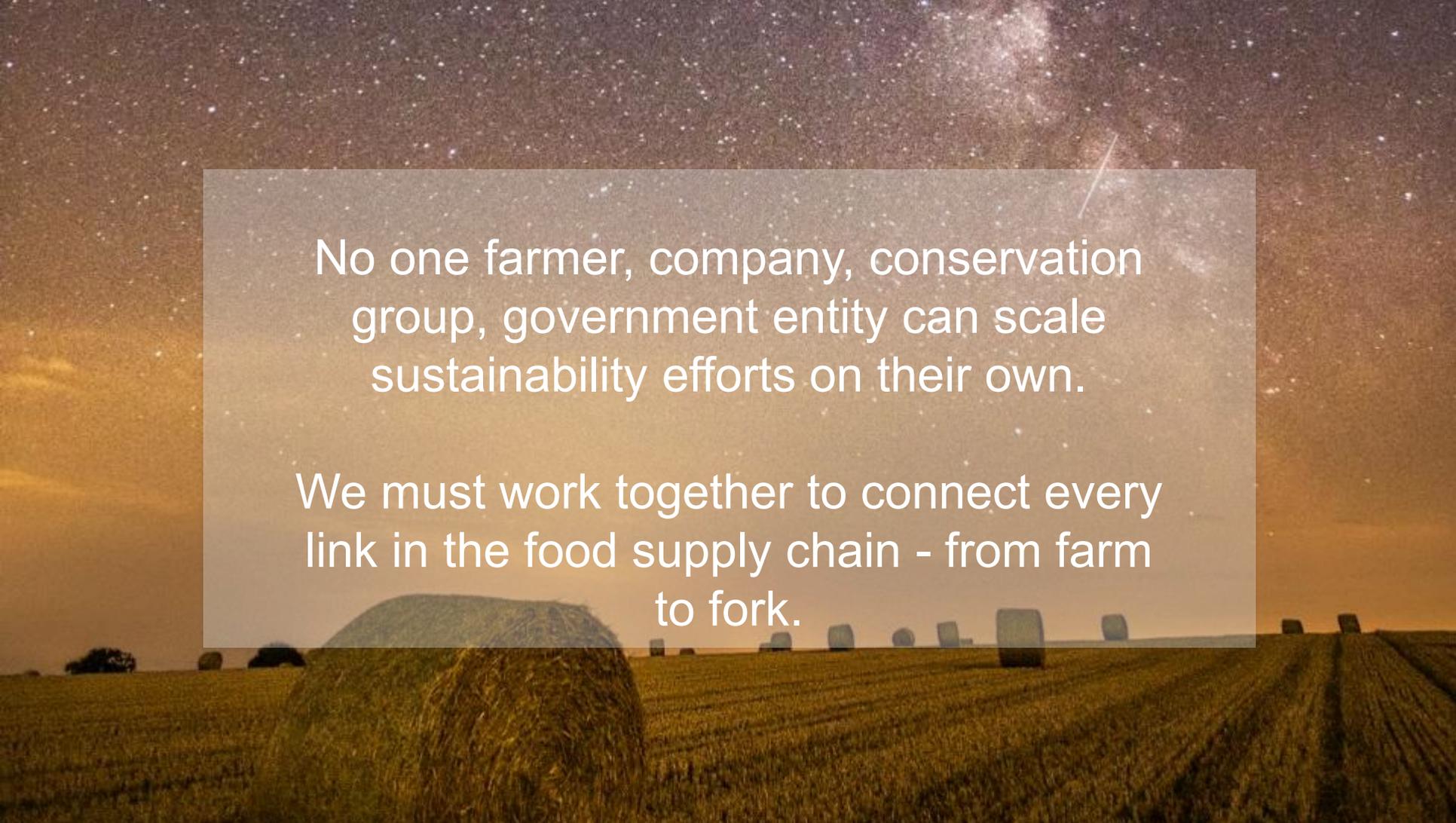
ACRES WITH LIME APPLIED

2.62% ↑



YEAR LIME APPLIED BY ACRE



The background of the slide is a composite image. The bottom half shows a rural landscape at sunset or sunrise, with a golden sky and a field of hay bales. The top half shows a dark night sky filled with stars and the Milky Way galaxy. A semi-transparent grey rectangle is overlaid in the center, containing two lines of white text.

No one farmer, company, conservation group, government entity can scale sustainability efforts on their own.

We must work together to connect every link in the food supply chain - from farm to fork.



LAND O' LAKES, INC.

Thank you

Any comments/thoughts are welcome

