

Soil Health Initiative September 2019

Investing in Venture Capital has Significant Risks

NO AMOUNT OF DILIGENCE OR DIVERSIFICATION CAN ELIMINATE THE RISK THAT INVESTORS IN EARLY STAGE PRIVATE DEALS MAY LOSE THEIR ENTIRE INVESTMENT. BEFORE INVESTING ANY AMOUNT, IT IS IMPERATIVE TO REVIEW THE PRIVATE PLACEMENT MEMORANDA OF EACH OF ISELECT FUND – ST. LOUIS, LLC, ISELECT FUND B – ST. LOUIS, LLC AND EACH PORTFOLIO COMPANY TO UNDERSTAND THE UNIQUE RISKS FOR EACH COMPANY. RISK FACTORS TO CONSIDER, INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

BY SUBSCRIBING TO AN INVESTMENT IN ISELECT FUND, AN INVESTOR WILL NOT DIRECTLY OWN PORTFOLIO COMPANY SECURITIES. INSTEAD, PORTFOLIO COMPANY SECURITIES WILL REMAIN UNDER THE OWNERSHIP AND CONTROL OF THE FUND. INVESTMENTS BY THE ISELECT FUND IN PORTFOLIO COMPANY SECURITIES ARE ILLIQUID AND WILL NOT BE TRANSFERABLE FOR THE FORESEEABLE FUTURE. INVESTORS WILL HAVE NO WAY TO LIQUIDATE THEIR INVESTMENTS FOR A SUBSTANTIAL PERIOD OF TIME. ALL PORTFOLIO COMPANIES ARE EARLY STAGE COMPANIES AND THERE IS SIGNIFICANT RISK THAT EACH PORTFOLIO COMPANY WILL FAIL AND INVESTORS WILL LOSE ALL OF THEIR INVESTMENT. THE OFFERING PRICE FOR PORTFOLIO SECURITIES IS DETERMINED BY EACH PORTFOLIO COMPANY. THERE IS NO THIRD PARTY VALUATION OF THE OFFERING PRICE FOR SUCH SECURITIES. MEMBERS OF ISELECT FUND'S INVESTMENT COMMITTEE AND SELECTION COMMITTEE MAY BE ACTIVELY INVOLVED IN BUSINESSES WITHIN THE SAME INDUSTRIES AS SOME OF THE PORTFOLIO COMPANIES. THERE CAN BE NO ASSURANCE THAT THE SELECTION COMMITTEE'S VIEW OF A PORTFOLIO COMPANY (OR OTHER COMPANIES NOT SELECTED TO BECOME PORTFOLIO COMPANIES) WILL NOT BE INFLUENCED BY ONE OR MORE MEMBER'S PERSONAL BIASES FOR OR AGAINST A PARTICULAR COMPANY. THE SALE OF SECURITIES BY ISELECT FUND AND EACH PORTFOLIO COMPANY WILL NOT BE REGISTERED UNDER FEDERAL OR STATE SECURITIES LAWS. SUCH OFFERINGS WILL NOT BE REVIEWED BY THE SEC, ANY STATE SECURITIES COMMISSION, FINRA OR ANY OTHER REGULATORY AGENCY. INVESTMENTS IN THE PORTFOLIO COMPANIES ARE SPECULATIVE AND INVOLVE A HIGH DEGREE OF RISK. IN GENERAL, FINANCIAL AND OPERATING RISKS CONFRONTING THE PORTFOLIO COMPANIES CAN BE SIGNIFICANT. A LOSS OF PRINCIPAL IS POSSIBLE. THE TIMING OF PROFIT REALIZATION IS HIGHLY UNCERTAIN. ADDITIONAL CONSIDERATIONS INCLUDE LESS LIQUID MARKETS AND LESS AVAILABLE INFORMATION THAN IS GENERALLY THE CASE IN PUBLICLY TRADED SECURITIES, AS WELL AS LITTLE OR NO GOVERNMENT SUPERVISION OF THE PORTFOLIO COMPANIES' DEALINGS, AND THE LACK OF AUDITED FINANCIAL STATEMENTS. EARLY STAGE AND DEVELOPMENT STAGE COMPANIES OFTEN EXPERIENCE UNEXPECTED PROBLEMS IN THE AREAS OF PRODUCT DEVELOPMENT, MANUFACTURING, MARKETING, FINANCING AND GENERAL MANAGEMENT, WHICH, IN SOME CASES, CANNOT BE ADEQUATELY SOLVED. SUCH COMPANIES OFTEN DO NOT GENERATE REVENUE OR SUFFICIENT REVENUE TO COVER THEIR EXPENSES, THEREFORE, SUCH COMPANIES MAY REQUIRE SUBSTANTIAL AMOUNTS OF FINANCING WHICH MAY NOT BE AVAILABLE THROUGH INSTITUTIONAL PRIVATE PLACEMENTS OR THE PUBLIC MARKETS. MOREOVER, ADDITIONAL FINANCING COULD HAVE A SIGNIFICANT DILUTIVE IMPACT ON A SUB-FUND'S OWNERSHIP INTEREST IN A PORTFOLIO COMPANY. NO ASSURANCES CAN BE GIVEN THAT ANY OF THE PORTFOLIO COMPANIES' PRODUCTS WILL BE SUCCESSFULLY MARKETED AND/OR SOLD IN SUFFICIENT VOLUME TO GENERATE A PROFITABLE OPERATION. THE PERCENTAGE OF COMPANIES THAT SURVIVE AND PROSPER IS SMALL.

FEES PAYABLE TO ISELECT FUND AND/OR BROKER DEALERS WHOSE CLIENTS PURCHASE INTERESTS IN ISELECT FUND WILL REDUCE THE RETURN TO INVESTORS. BY INVESTING DIRECTLY IN PORTFOLIO COMPANIES, INVESTORS WILL AVOID PAYING A MANAGEMENT FEE AND CARRIED INTEREST TO ISELECT FUND AS WELL AS ANY APPLICABLE BROKERAGE COMMISSIONS OR FEES.

PRIOR RESULTS ARE NOT INDICATIVE OF FUTURE PERFORMANCE



Agenda

- Goal
- What is Healthy Soil?
- Soil Issues
 - Loss of Topsoil
 - Water Contamination
 - GHG
 - Lack of Biodiversity

Real World Constraints

- Protein Growth
- Improve Health / Nutrition
- Farmer Profitability
- Geographic / Political / Economic Variability
- Can Venture Solve the Problem



Agenda

Outside Influences (both + / -)

- Consumer Trends
- Organic Standards
- Regenerative Standards

Solving the Problem

- Data Measure / Monitor / Manage
- Crops
- Inputs
- Equipment
- Farming Practices

How Do We Ensure Success

- Source
- Pick
- Win



Goal

- Discuss What Soil Health Means and its Benefits
- Discuss Issues Associated with Poor Soil Health
- Discuss Constraints and Influences that Impact Solutions
- Identify Possible Solutions to Improve Soil Health
- Prioritize those Solutions based on Greatest Impact AND Ability to Qualify for Venture Investment
- Discuss Other Ways We Can Work Together to Improve Soil Health

Healthy Soil – Definition & Importance

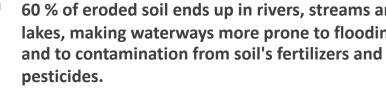
- Soil Health is defined as: "the continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals, and humans"¹
- Keys to Healthy Soil:
 - Minimize soil disturbance
 - Optimize plant diversity
- This nurtures diverse and abundant microbial life.
- Healthy soil more efficiently stores and recycles carbon, water, and nutrients such as nitrogen and phosphorous.

¹U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS)



Soil Issues – Loss of Topsoil

- Two billion hectares of soil has been degraded (15% of Earth's land): a loss of 15% of agricultural supply in the last 50 years
- Topsoil is lost at a rate of 760M tons a year, it takes 1,000 years to generate 3 cm. If degradation trends continue, all will be gone in 60 years.
- U.S. is losing soil 10x faster -- and China and India are losing soil 30 to 40 x faster -- than the natural replenishment rate.
- Soil erosion in U.S. costs about \$37.6 billion each year in productivity losses. Damage from soil erosion worldwide is estimated to be \$400 billion per year.
- 60 % of eroded soil ends up in rivers, streams and lakes, making waterways more prone to flooding and to contamination from soil's fertilizers and pesticides.

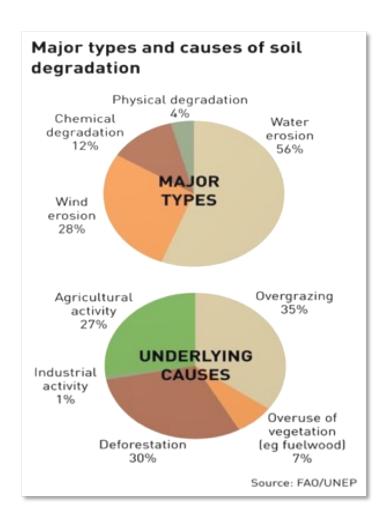








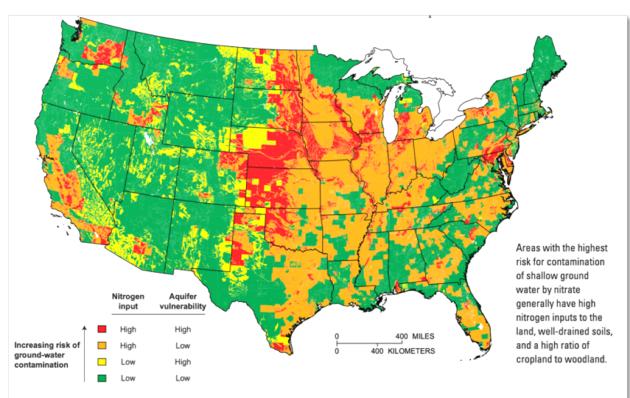




Soil Issues - Water Contamination

- Factors responsible for groundwater contamination since 1990 (Globally).
 - Increasing use and dependency on artificial fertilizers
 - Waste disposal (particularly animal farming)
 - Changes in land use

Areas with the highest risk for contamination of shallow ground water



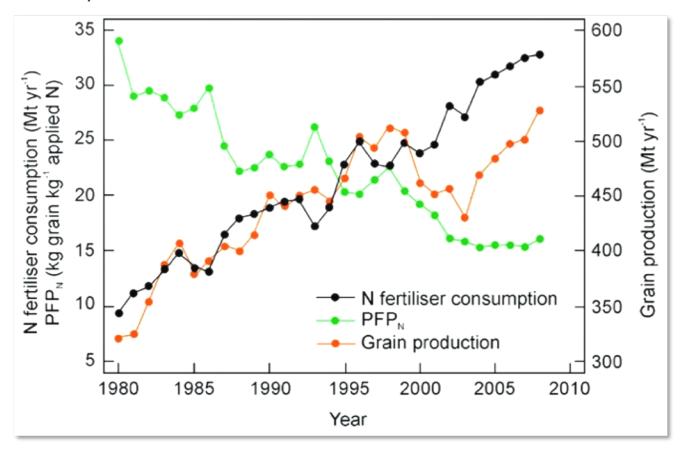






Soil Issues - Nitrogen Use Efficiency

- According to BASF Global, less than 50% of applied Nitrogen (N) is absorbed by plants.
- In a Market Report published by IndustryARC, the fertilizer market is expected to be \$151.8 Billion by 2020.



This graph, provided by the scientific peerreviewed publication World Agriculture, shows that N fertilizer consumption has increased faster than grain production from 1980 to 2010.



Soil Issues – Greenhouse Gas Emissions

- Soil management N2O emissions from farmland soils are associated with cropping practices that disturb
 soils and increase oxidation, which can release emissions into the atmosphere. These practices include
 fertilization, irrigation, drainage, cultivation and tillage, shifts in land use, application and/or deposition of
 livestock manure and other organic materials on cropland and other farmland, and other types of practices.
- Enteric fermentation CH4 emissions occur as part of the normal digestive process in ruminant animals. Emissions are associated with the nutritional content and efficiency of feed utilization by the animal.
- Manure management CH4 and N2O emissions are associated with livestock or poultry manure that is stored and treated in systems that promote anaerobic decomposition, such as lagoons, ponds, tanks, or pits.
- Other production methods CH4 and N2O emissions are also associated with rice cultivation, urea fertilization, liming, and biomass burning, as well as CO2 emissions from fossil fuel combustion by motorized farm equipment.

N₂O CH, CH, N₂O co co. CARBON SEQUESTRATION Photosynthesis CO CO. Land use Conversion Cover Crop, Conversation Biochar (C) RICE UREA FERTILIZATION. MANAGEMENT Soil Carbon LIVESTOCK

Figure 1. GHG Emissions from Farming Activities and Carbon Sequestration in Agricultural Soils

Source: CRS.



Soil Issues – Lack of Biodiversity

- A healthy soil depends on a vibrant range of life forms living below the ground
 - Together, bacteria and fungi, tiny insects, earthworms, and moles create a rich biodiversity
- Decline in the diversity of organisms present in soil that affects multiple ecosystem functions
 - Plant diversity, decomposition, nutrient retention and cycling.
 - Plant and animal health, soil carbon sequestration, and greenhouse gas emissions.
- External inputs for crop production have far reaching affects:
 - Deterioration of soil quality
 - Pollution of soils and water systems.
 - Health problems due to use of pesticides and chemic fertilizers.
 - Reduction in cultivated crop species leads to loss of biodiversity
 - Crop species become less adaptable.
 - Tillage and deforestation disturb soil physiochemical and biological processes.







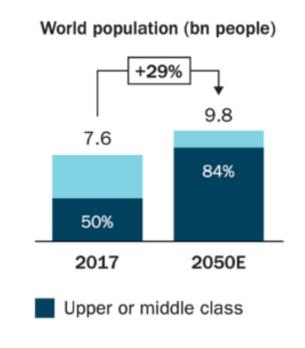
Constraints – Agricultural Production is a System

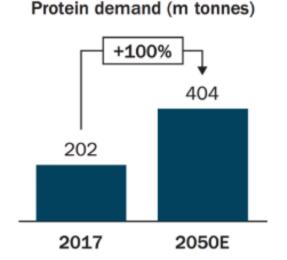
- Soil Microbes Nutrients Water
- Sun
- Seed / Genetics
- Weed protection Crop protection
- People & Equipment



Constraints - Protein Growth 1

Population and middle class growth, doubling of global protein demand by 2050, dearth of new arable land, strained water supplies, demand for sustainable development





Benchmark Holdings, 2019, https://www.benchmarkplc.com /who-we-are/strategy-markets/

1. https://www.mckinsey.com/industries/chemicals/our-insights/pursuing-the-global-opportunity-in-food-and-agribusiness

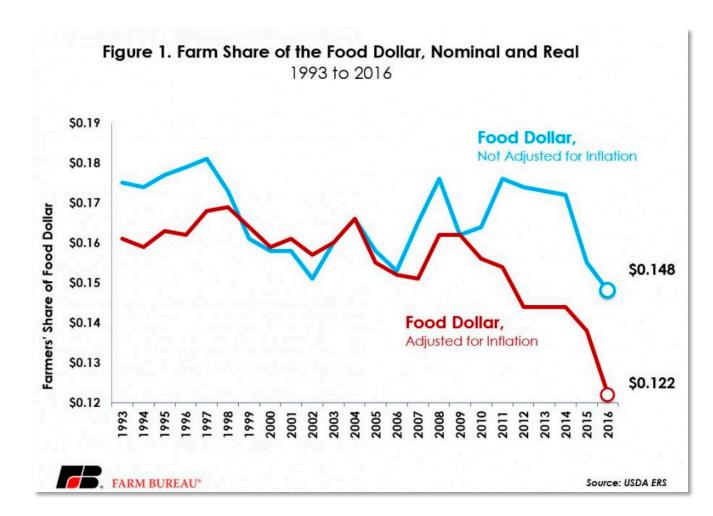


Middle class population

growing over

100%

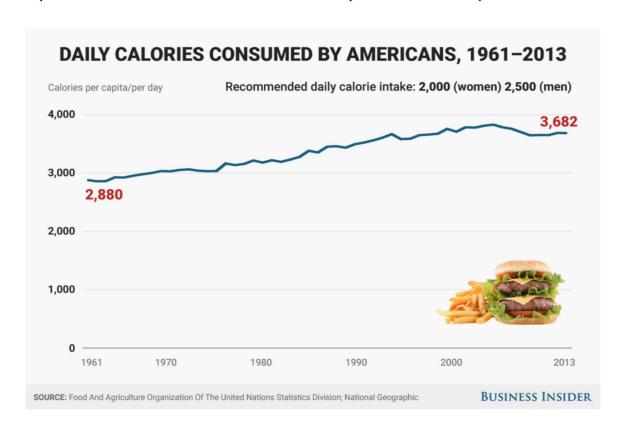
Constraints – Farmer Profitability



- Farmers want to see extensive data and a 4-5x ROI before adopting new technology.
- Solutions have to give farmers a low / no risk way to trial for extended periods.

Constraints – Nutrition and Public Health

Americans are consuming far more calories each day than is recommended (daily intake should be around 2,000 calories for women and 2,500 for men).



About half of all
American adults—117
million individuals—
have one or more
preventable chronic
diseases, many of
which are related to
poor quality eating
patterns and physical
inactivity.

Constraints – Geographic, Political, Economic

- Soil / Environmental Conditions Vary Dramatically by Geography
- Governments Behave Differently Towards Conservation Practices
 - Europe Restricting Use of Synthetic Chemicals
 - Brazil Encouraging Deforestation to Increase Agricultural Production
- Farming Practices / Business Model Vary Dramatically by Geography
 - Growth of Factory Farms in the U.S. versus Smallholders in Africa



Constraints – Other

- Farmers are skeptical of the value of soil testing and other soil health initiatives
 - Microbials / biologics are often viewed as snake oil due to failure of earlier products
- Many Farmers do not own their land
 - Not incented to take short term risk for long term gain
- Farmers are Risk Averse / Wary of Being Sold / Lack Trust
 - Very few trusted relationships anymore
 - Feel like everyone has their hand out trying to extract something from them



Constraints – Can Venture Solve the Problem

Venture investments typically exhibit the following features:

- Rapid, steady sales growth (ie, highly scalable operations)
- Proprietary new technology or dominant position in a sizable or emerging market
- A sound management team
- An exit strategy
- Potential for a significantly above average risk adjusted return

Venture investments typically do not exhibit the following features

- No intellectual property
- Significant capital required for fixed assets
- Reliance on government programs for support (eg, tax credits)
- Limited market size
- Business models that do not have recurring revenue

There is not always an opportunity to invest

- Companies are not fundraising continuously
- Size of round, pricing, geography, structure and other factors may limit investment



Outside Influences – Consumer Trends

Forbes – Top Trends
Driving the Food
Industry in 2019

- Transparency
- Plant Based Foods
- Health & Wellness

FoodDive – Trends to Impact the Food Industry in 2019

- Functional Foods
- Better for You
- Plant Based Meat
- Sustainability

WPP – Top Purchasing Attributes Among Millennials in 2019

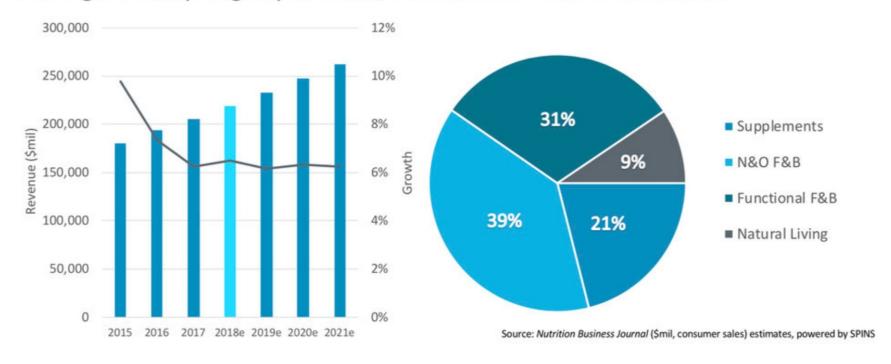
- Convenience
- Health
- Technology
- Sustainability

Organic is viewed as both Healthy and Sustainable

Outside Influences - Organic

U.S. natural & organic industry hits \$219B in '18

2018 growth up slightly to 6.9%, F&B drives 70% of total sales



Unfortunately, organic does not necessarily equal soil health and the 3 year conversion is not conducive to adoption



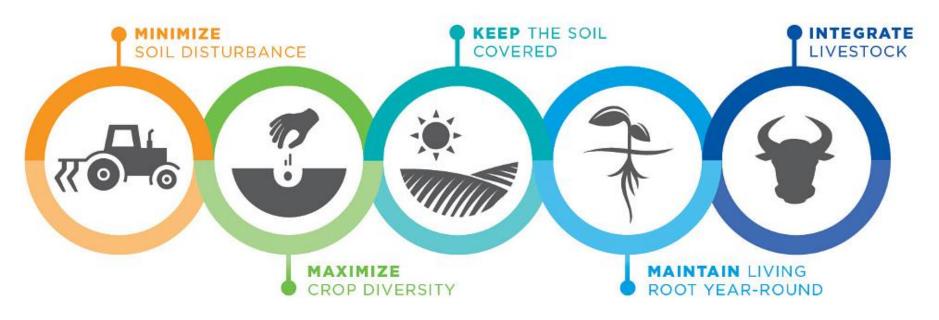
Outside Influences - Regulatory

- Regulatory environment can have an influence on adoption of new technology
- Water is becoming increasingly regulated in water stressed parts of the U.S. and the world
- Chemical usage is coming under increased regulatory scrutiny, particularly in Europe
- Greenhouse Gas Emissions face varying levels of regulatory scrutiny

While regulatory environments can help adoption, investment opportunities must make economic sense regardless of the regulation

Outside Influences – Regenerative Standards

5 Core Principles of REGENERATIVE AGRICULTURE

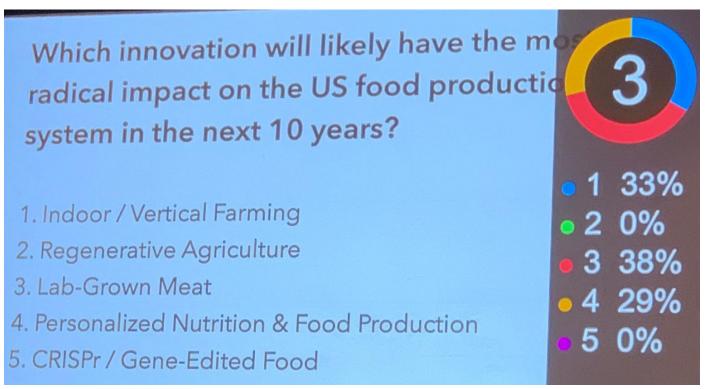


Source: Agrible



Outside Influences – Regenerative Standards

- Regenerative Ag definition / standard is still in flux
- Various organizations and thought leaders have their own set of defining principles
- There is no definitive standard for certification
- There is a risk of diluting effort and confusing consumers



From a Vonnie Estes LinkedIn Post: "This was an audience poll at the wrap up session at Groceryshop The audience was mostly the retail side: The people in charge of bringing the food we grow to the **consumer**. We have some educating to do around regenerative Ag practices and plant breeding!!"

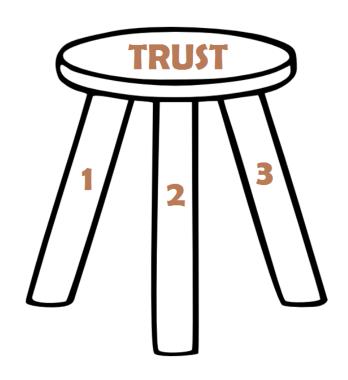


Solutions – Three Legged Stool

To Gain Farmer Trust and Adoption, Solutions Must:

- 1. Increase Yield
- 2. Reduce Cost, or (preferably and)
- 3. Improve Price

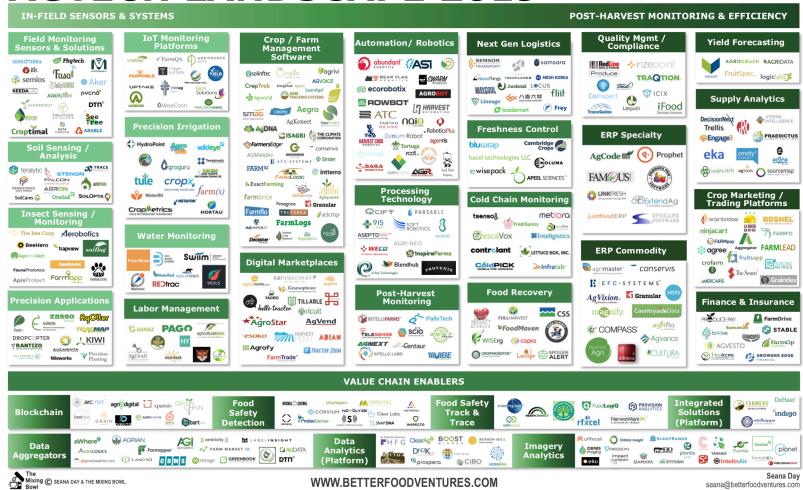
Too often, the 3rd leg is forgotten. As Organic has Proven, Consumers are the Key to Improving Price



Solutions - It's a Crowded Field!

AGTECH LANDSCAPE 2019

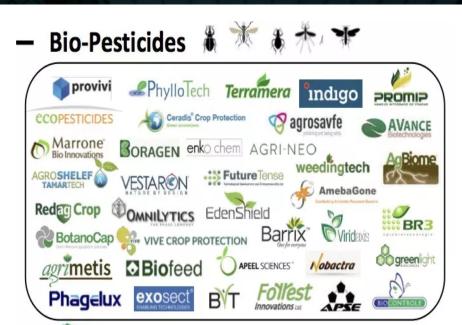




Thanks to the Better Food Ventures Team for this Great Graphic!



Solutions – It's a Crowded Field!



Bio-Stimulants / Bio-Fertilizers





Solutions – Narrowing it Down

Areas that Appear to have the Most Potential

- Soil Health Testing
- Data Decision Platforms
- Crops
- Crop Inputs
- Other

These seem like the most likely categories with the potential for the biggest impact, but none of them are really consumer facing solutions

Solutions – Soil Health Testing – 3 Categories

- Nutrient Testing
- Microbial Testing
- Pathogen Testing

Benefits

 More accurate identification enables correct usage throughout the crop lifecycle, thereby reducing runoff and increasing yield

Disadvantages

- Low sampling rate (~1 sample per 20 acres)
- High sampling error (+/- 20%)
- Variability due to climate conditions at time of sample
- ROI can be difficult to prove (ie, moderate cost, but uncertain return)

Can't Manage what you Can't Measure, but is the Technology there yet? Are the Right Items Being Measured? Less about the Measurement as it is about the Actionable Recommendations

Solutions – Data

Value is created when

- Data can be captured, stored, integrated, managed, and analyzed by a single system or platform
- Data can be turned into actionable recommendations in near real time
- Outcomes provide substantial ROI (4-5x)
 - > Increase yield, reduce operating costs

Single-point sensors

Necessary to collect data, but they can become commodities over time

Measuring and Monitoring

- Platforms are needed, but only if it is cost effective and actionable
- Platforms need to maximize sampling rate and minimize sampling error at the lowest cost to the end user

Recommend focusing on Analytical, Decision Making Platforms – Actionable across multiple variables using an Integrated Systems Approach



Solutions – Crops – 3 Main Categories

Genetics

- Increase yield, improve taste / health / nutrition, reduce need for inputs, improve climate tolerance / sustainability
- Despite potential benefits, are of uncertain soil health value

New crops (e.g., hemp, chickpea, dandelions)

- Nutritional value, sustainability, diversity, farmer profitability
- Also of uncertain soil health value

Cover crops

While an integral part of soil health, they have uncertain market / farmer value

While cover crops provide the most direct benefit to soil health, uncertain whether they fit the criteria for venture investment. Genetics are probably the highest value with the potential for highest gain, but many of the companies are later stage. New crops may offer opportunity, but variable levels of soil health value.



Solutions – Inputs – 3 Main Categories

Bio-stimulants / fertilizers

- Single microbes, Microbial consortia, and other organic or biologic growth stimulants / plant health promoters
- Benefit Microbial activity is important to soil health, soil water retention, carbon sequestration and nutrient availability while reducing the need for synthetic inputs.
 Have low regulatory hurdles. Significant tailwind in European regulatory environment
- Disadvantages Farmer's still question the science and are slow to adopt.

Nutrient fixing microbes

- Microbes that extract nitrogen, phosphorus or other nutrients from the air or soil and improve its bio-availability to the plant
- Benefit reduce the need for synthetic inputs and more likely to make nutrients available when the plant needs it as opposed to when it is applied
- Disadvantages Science is still relatively new and limited data exists
- Regulatory and Cost Efficiency are not yet fully proven



Solutions – Inputs – 3 Main Categories

Biopesticides

- Microbial, organic or biologic products that control pests
- Benefit Reduces need for synthetic crop protection products
- Disadvantages Perceived lower efficacy, pricing often does not allow for trial (too expensive for a farmer to take a risk)
- Regulatory pathway is fairly well known
- Regulatory environment for synthetics and glyphosate / dicamba litigation are providing tailwinds for biopesticides

All 3 categories are of interest. Need to pay attention to farmer ROI and strategy for farmer trial / adoption. Any company requires extensive field trials and good distribution strategy



Solutions – Equipment

- Most of the Venture Oriented Equipment Solutions are focused on either Labor or Precision Weeding (some precision crop protection).
- While labor relief is critical to many of today's farmers, it is not necessarily related to soil health.
- The Precision Weeding solutions are aimed at reducing or eliminating the use of herbicides. This is correlated with Soil Health.
- Other pieces of equipment are being developed to assist in making it easier to go "no-till". To date, these seem to have a limited market.

Solutions – Farming Practices

While Farming Practices such as No-till farming and Crop Rotation are beneficial to Soil Health, iSelect is unaware of any companies in either area that could be a potential for venture investment, nor would iSelect expect these segments to produce venture opportunities.

Recommend continuing to monitor for possible investment opportunities.



Solutions – Other Areas for Consideration

- Indoor Farming Technology
- Synthetic Biology (aka Cellular Meat or Alternative Proteins)
- Insect Protein
- Aquaculture (best feed conversion ratio)
- Improvements in Livestock Production
 - Manure Management / Waste Water Recycling
- Finance (Opportunity to Incent Best Practices)

Most of these Solutions Produce Food that meets Consumer Demand Using Significantly less Land, Synthetic Chemicals, Water and Nutrients, and are often a carbon user versus emitter. While it doesn't improve the soil we have, it takes away much of the burden while meeting consumer needs.

Soil Health - How To Get the Consumer Involved

- Organic has demonstrated the power of the consumer (\$ / unit)
- While Sustainable is Important, Healthy is more Important
 - Soil Health Does not Equate to Healthy in the mind of the consumer
- Consumer Demand = Higher Prices = Higher Profits (hopefully) =
 Greater Willingness to Adopt New Technologies

How Do We Get the Consumer to Care about Soil Health?

