



Food Value Chain Report

Q3 2023 Market Valuation and Capital Markets Commentary

OCTOBER 2023

About Capital Alliance

Oaklins member Capital Alliance is a 47-year-old private investment banking firm that specializes in mergers and acquisitions advisory services for middle-market businesses with enterprise values between \$10-\$300 million.

We combine our market knowledge with professional discipline and time-tested processes. Our team of experienced industry specialists grasp the value of an enterprise from an operations perspective. Although we serve several industries, we have a Food Value Chain focus on agriculture, food and technology industries linked together by the sustainability trends and initiatives which are the basis for this report.

The broad range of deal valuations that we take to market gives us a unique perspective on the motivations and subtleties of buyer/seller behavior. We have demonstrated the ability to shift the acquisition focus and change the dynamics of a negotiation to support a compelling transaction for both sides, earning us a reputation for offering unique perspectives and “outside the box thinking” in complex deals.

Capital Alliance is a member of Oaklins, the world’s most experienced mid-market M&A advisor, with over 850 professionals and dedicated industry teams in 45 countries, having closed 1,900 transactions in the past five years. We leverage specialists with deep local connections to provide the best results for our clients stateside and abroad.



The Report

The term “regenerative agriculture” has reached buzzword status in recent years and remains prevalent. We are guilty of overusing it ourselves in this report. Perhaps it is too popular in discussion and less prevalent in adoption than various parties realize. The USDA and others have coined “climate-smart” as a term to describe various farming practices with targeted impact in that arena. Still, others focus on “soil health” as a prominent longer-term objective.

This report includes an **interview with soil health leader Mitchell Hora, CEO of Continuum Ag (Washington, Iowa)**. He discusses insights about Clean Fuel Production Credit (CFPC): Section 45Z Tax Credits established within the Inflation Reduction Act (IRA). The report also includes **interviews with industry thought leaders Frank Lessiter of Lessiter Media (Brookfield, Wisconsin) and Warren Formo of the Minnesota Agriculture Water Resources Center (MAWRC, Eagan, Minnesota)**.

Reduced tillage and seeding of cover crops are two novel practices frequently cited in regenerative agriculture circles. Cover crops are preferred for favorable soil health and carbon sequestration attributes, but their adoption rates lag conservation tillage practices by a wide margin. **Incentives from the IRA 45Z credits could materially promote increased usage of cover crops if the benefits earmarked for ethanol producers (via Scope 3 reductions) are adequately shared with the farmers who directly implement the soil health focused practices.**

We welcome direct contact from readers on these subjects for additional information that we have not included in this quarterly outreach.



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Seeking Regenerative Agriculture Practice Growth Rates

Approach – Access Thought Leaders, Farmers, Related Practice Case Studies, Articles and Interviews

Several of our sources were referenced on the prior page. We also reached out to regenerative row crop farmers Jeff and Gayle Olson of Winfield, Iowa (profiled [here](#)) and Sarah Carlson of Practical Farmers of Iowa. We reviewed numerous other farmer profiles (similar to the Olson's) featured in Lessiter Media publications, blogs and conference interviews to help formulate our opinions. A special thank you to each of these participants for their expertise, time, and thoughts on the subjects we cover.

- We set out to identify regenerative agriculture practice growth rates which one might use to gauge the true opportunities in this field. That objective proved to be more difficult than anticipated as most experts we communicated with pointed to the upcoming release of the 2022 Census of Agriculture report due in February 2024 from the USDA. That survey is conducted every five years and contains detailed, county by county-level acreage statistics pertaining to various crops and practices (see the prior 2017 survey report [here](#)).
- Pertaining to cover crop adoption specifically, **Sarah Carlson, Senior Programs and Member Engagement Director at Practical Farmers of Iowa**, referred us to the **2022-2023 National Cover Crop Survey** (available [here](#)) published in August 2023 by the **Conservation Technology Information Center (CTIC), the USDA Sustainable Agriculture Research & Education (SARE) and the American Seed Trade Association (ASTA)**.
- We sought to examine cover crop practice adoption specifically because that practice is heavily rewarded in the Carbon Intensity (CI) scoring for potential CFPC: Section 45Z tax credits covered later in this report.
- The 2022-2023 Cover Crop survey was completed by approximately 800 farmers, the vast majority of respondents grow commodity crops including corn and soybeans. The

survey is somewhat skewed toward 80% of respondents who are currently using cover crops vs. about 20% who are non-users or former users of the practice.

- Numerous results are available from the survey and we summarize only a few here: (1) the median age of respondents was 59 years old, (2) two-thirds of cover crop users have been seeding covers for more than six years, (3) tillage practices of all respondents were as follows: 45.1% continuous no-till; 23.8% reduced tillage; 12.6% rotational no-till; 10.2 % conventional tillage and only 5.2% strip-till, (4) among cover crop users, over 70% reported using continuous or rotational no-till practices, and (5) 41% of cover-crop users reported seeding covers as a transition to no-till.
- One survey metric identified the average number of cover crop acres per user has consistently grown from 2018 through 2022 from 324.9 acres to 413.6 acres, an increase of 25% or about 5% per year. That metric stepped up to 10% growth from 2021 to 2022 indicating possible momentum. A recent survey from Purdue University indicates that trend may reverse in the next growing season (article [here](#)).
- In a forward to the cover crop report, **Ryan Heiniger, Executive Director of CTIC**, referred to a “lofty objective” for US cover crop usage growing to 30 million acres by 2030, roughly doubling from 15 million acres currently (**implying a forecasted CAGR of 10.4%**).

Key Takeaways

We See Annual Growth Rates for Commodity Crop Regenerative Ag Practices in Mid-Single Digits

We sought growth metrics for key practices using an intuitive approach (i.e., by digesting many sources) rather than an empirical process which has been conducted by the USDA statistics division and which will be published in the 2022 Census of Agriculture report due in February 2024.

- Certain commodity crop practices that have been utilized for decades (including crop rotation, reduced tillage and cover crop seeding) have received renewed attention under the much popularized subject headings of regenerative agriculture (regen ag) and climate-smart agriculture.
- **We conclude the annual growth rates of total US commodity crop acres utilizing these practices are lower than non-agriculture and climate-focused investors might realize.**
- **After a review of available data, we estimate the annual growth rate of US commodity crop no-till acres is currently trending below 5%. Similar growth rates for cover crop adoption is near 5% and are in the upper single digits for strip-till acres.**
- **For perspective, these rates are roughly one-half of the expected adoption rates for row crop biological-based crop input products in similar end markets (see our prior report [here](#)).**
- Strip-till is benefitting from several factors; (1) growing from a smaller base of acres under the practice historically, (2) increased yield metrics vs. no-till methods in recent seasons (further information available [here](#) and [here](#)) and (3) the emergence of innovative precision planting and tillage equipment (further information available [here](#)) which improves ease of use for existing users and new adopters. The entry of **John Deere** into this specialty equipment, strip-till niche market indicates to us that they expect meaningful future growth.
- Full no-till practice growth has moderated, perhaps due to the law of high numbers as it was the favored method of industry pioneers over prior decades and it appears to be giving share to strip-till currently.
- Cover crops are more fully utilized by no-till users than by strip-till farmers indicating that future growth could moderate accordingly. Still, cover crops are a favorite of the climate-friendly coalitions and numerous programs are emerging such as the CFPC: Section 45Z tax credit subsidies covered in this report and various consumer-driven programs announced and underway from multinational companies such as [PepsiCo](#) and [others](#).
- Accelerating the growth and adoption of these practices requires much more capital available inside the farmgate to offset the risk of lower farm incomes during the transition from traditional practices. Still, prior generations of farmers have improved long-term profitability and improved soil health without enormous subsidies.
- **Secretary of Agriculture, Tom Vilsack**, is calling for significantly more capital for climate-smart ag practices during the ongoing five-year farm bill appropriation process (further information available [here](#)). Stated in simple terms, further acceleration in the adoption of these regenerative practices is likely to be politicized along party lines.

Interview with a Pioneer: No-Till Farmer Founder and Editor, Frank Lessiter

Frank Lessiter and His Company, Lessiter Media Have Covered Regenerative Agriculture Since 1972

We have captured various talking points below from our recent discussion with Frank Lessiter about trends surrounding the subject of regenerative agriculture and the “state of the industry” from his perspective. Lessiter Media publishes numerous monthly and quarterly magazines and hosts annual conferences devoted to and covering regenerative ag practices. These include No-Till Farmer, Strip-Till Farmer, Cover Crop Strategies and Precision Farming Dealer (and their corresponding annual summits). Click [here](#) to see more on Lessiter Media. The following are a few of the thoughts we heard from this trusted resource.

- “The key to more cover crops is more no-till adoption. Our surveys show 80% of no-tillers are seeding cover crops while less than 10% of the general farm population is using cover crops.”
- “The historical growth of no-till farming practices has been substantial starting with 3.2 million acres in 1972 (when we began) and now close to 108 million acres in the US. Lately, that growth has levelled off. We will know more acreage information in February when the USDA releases its 2022 Census of Agriculture report.”
- “There is hope for more no-till and strip-till growth in the future as more traditional farmers transition operations to the next generation.”
- “Newer cover crop adopters may have experienced a rough past year due to drought conditions and they may be reluctant to utilize cover crops in the upcoming year.”
- “There is a lot of capital directed at regenerative agriculture right now from multiple sources such as governments, impact funds and multinational consumer focused companies.”
- “We have several annual conferences which are attended by our subscribers and advertising customers. The past couple of years rebuilt attendance towards pre-pandemic levels. Advance reservations for our upcoming 2024 conferences are running way ahead of prior years. That could be an indicator of future no-till adoption.”
- “Other growth indicators include larger equipment manufacturers entering the specialty implement market and increased advertising interest from biological-based crop input companies.”
- “On the other side of things, I recall one survey that indicated even \$100 per acre of incentives would not be enough to switch most farmers from traditional to regenerative practices.”
- “As for the existing carbon sequestration platforms, I would say carbon sequestration is a bit of a sore subject for our audience since most programs exclude incentives for existing no-till and cover crop farmers since they are already doing what is the desired outcome.”

Interview with a Minnesota Strip-Till Proponent: Warren Formo, MAWRC

Warren Formo, Executive Director of the MN Agriculture Water Resources Center (2008-Present)

As Executive Director of MAWRC, Warren Formo has a unique look into the adoption of regenerative agriculture in that state as MAWRC administers a farmer-led research and education program called Discovery Farms Minnesota. While the primary objectives of Discovery Farms are related to water management issues, the program has collected data from over 50 test farms since 2009 which cover all row crops grown in the state, all tillage practices, crop rotations, various cover crop seedings and soil types. That data-rich environment plus his direct communications with numerous farmers and industry participants drives his expectations for continued strip-till adoption in Minnesota. The following is a summary of our recent discussion.

- “The vast majority of reduced tillage practices in Minnesota are strip-till vs. no-till due to soil type and soil temperature issues compared to other regions.”
- “Cover crops are not used as much by strip-tillers as they are by no-tillers, and they are not as widely adopted in Minnesota due to more extreme winter temperatures.”
- “Strip-till growth will eventually place that practice ahead of conventional tillage acres in Minnesota. This could be evident in the results of the 2022 USDA Census of Agriculture Report due in February 2024.”
- “Minnesota strip-tillage acres were 30.8% of total acres in the 2012 census and rose to 41% in 2017. They could exceed 45% or 46% of acres in the 2022 census.”
- “Strip-tillage represents the best of both conventional and no-tillage practices in Minnesota. It provides erosion control, reduced compaction, improved soil health, less nutrient and fertilizer use, fewer equipment passes through the field, reduced labor and horsepower requirements and an improved seedbed in the spring.”
- “Strip-till adoption should continue in Minnesota for reasons including adoption by larger farmers (those over 1,000 acre operations), equipment innovation and improved ROI.”
- **On larger farms:** “Reduced tillage used to be utilized by farmers with 200-600 acres. Now we see new adopters with 3,000 to 4,000 acres. These farmers test strip-till on 80 acre fields (using outside contract equipment services) to get comfortable with the practice and its benefits, then they invest in the necessary equipment and roll it out across all their acres.”
- **On better equipment:** “Equipment manufacturers have innovated over time to improve ease of use by soil type. In Minnesota, Environmental Tillage Systems (ETS) did this for our soils (which contain more clay than many other soil types) ... today, you would probably wait a year to get a new ETS unit. Major equipment OEMs are also entering the strip-till market.”
- **On improved ROI:** “It’s not just improved ROI, strip-tillers in Minnesota are achieving higher ROI and higher yields with the practice.”

Summary Description of the Inflation Reduction Act (IRA) CFPC: Section 45Z Tax Credits and Potential Impact on US Domestic Corn Producers:

Inflation Reduction Act (IRA) Provisions:

The Inflation Reduction Act (IRA) established \$370B of federal funding for clean energy projects, including the IRA CFPC Tax Credits (Sec. 13704; “45Z”), which encourage clean fuel producers (i.e., ethanol, biodiesel and clean aviation fuels producers) to lower their Scope 1, 2 and 3 GHG emissions. Specifically, this legislation provides substantial incentives to ethanol producers who consume approximately 40% of annual US field crop corn output as feedstock for approximately 10% of US transportation fuels.

Tax credits will be available to energy producers who lower their carbon intensity (CI) footprint below certain benchmarks and incentives strongly encourage producers to source corn feedstocks which are qualified with low (CI) scores at the farmgate. **These credits favor corn supplies from farmers who currently produce grain utilizing regenerative production practices and they could promote the adoption of similar practices (especially cover cropping) by traditional corn producers.**

Approximately one-half of a “standard” ethanol producer’s CI score of 56 is a result of its Scope 3 corn supply chain with an average “standard” grower/supplier CI score of 29. This implies that lowering the CI score of the grain supplier (via Scope 3 impact) can substantially reduce the CI score of the clean energy producer.

Several regenerative agriculture practices serve to lower an individual grower’s carbon intensity score based on the GREET (available [here](#)) model which is to be utilized for CI calculation. These include reduced tillage practices, cover crop adoption, nitrogen reduction alternatives, livestock manure management substitution for traditional synthetic fertilizers, etc. Every grain farm or individual field has a unique CI score (with 29 determined as the grain belt average).

Farms that are currently operating on regenerative principles may already score in the single digits or even generate a negative CI score. These represent attractive grain supplies to an ethanol producer and should result in premium pricing for crops from these farmers.

The 45Z credits will apply to clean energy fuel produced after January 1, 2025 (for an initial period of three years). This implies utilizing the fall 2024 US grain harvest as feedstocks for which CI scoring will be partially determined by grower practices (such as use of cover crops and manure substitution for synthetic fertilizers) starting in the fall of 2023 which will affect the 2024 crop.

Final determination on how the tax credits will be handled (including potential credit resales) are to be ruled on by the IRS by late 2024.

Summary Description of the Inflation Reduction Act (IRA) CFPC: Section 45Z Tax Credits and Potential Impact on US Domestic Corn Producers: (continued)

Potential Ecosystem Benefits of \$2 Per Bushel of Corn:

The potential “non-cash” benefits to the entire ethanol production ecosystem can be as high as \$2 per bushel of production for grain supplies from CI negative farms. Of course, the credit is recognized by the energy (ethanol) producer and only a portion of it will be passed on to the farmer as a premium to the commodity grain market price.

The potential benefit to the energy producer is such that it should merit serious “market premium” benefit sharing with the grain farmer.

Could Substantially Advance Cover Crop Adoption:

The benefit sharing mechanism will be a key driver for new farmer adoption of favored practices such as cover cropping. At a significant level of benefit sharing, this tax credit policy could seriously move the needle on the adoption of regenerative agriculture practices by traditional growers.

Stipulations and Limits to the Tax Credits:

There are several qualifying features attached to these potential credits that we have not discussed. For instance, clean energy producers receiving Section 45Q benefits (for carbon pipeline project participation) cannot “double dip” with 45Z credits. See more details [here](#).

Key Takeaways:

While plenty of details remain undefined about this opportunity, several takeaways emerge:

- (1) The magnitude of this program could be enormous since 40% of the commodity corn produced in the US goes into ethanol production.
- (2) US corn growers need to establish CI scoring through various third party market participants who can verify their CI scores across individual grain producer operations. This verified data becomes the basis for future premium price recognition.
- (3) US corn growers considering adoption of regenerative agriculture (“soil health”) initiatives should consider implementation of practices starting in the Fall of 2023 to generate more attractive CI scoring and qualify for potentially greater market premiums.
- (4) Ethanol producers and commodity handlers should work to incentivize mass supplier (grower) participation.
- (5) The 45Z mechanism has great potential but it puts all of the power over administering premium market pricing to the ethanol producer which may or may not serve to maximize incentives to the grower.

Special Situation Presentation: Continuum Ag & Carbon Intensity Scoring

Reducing Scope 3 GHG Footprints of Ethanol Producers Could Reward Regen Focused Corn Farmers An Interview with Continuum Ag CEO, Mitchell Hora

Continuum Ag is an Iowa based agronomy data services business focused on soil health and regenerative growing practices. As such, the company is in a unique position to assist row crop farmers in a multi-state area to determine their carbon intensity (CI) scores and implement data tracking on regenerative growing practices to improve soil health, environmental outcomes and climate related objectives while maximizing ROI to the farmer.



Additional Facts About the Potential CFPC: Section 45Z Tax Credits

Not all practices are created equal. Carbon Intensity (CI) reduction depends on numerous factors. CI reduction by farming practice are: <4.95> for not-till, <6.1> for green ammonia, <16.75> for manure and <29.75> for cover crops. Combined use of multiple practices can reduce CI scores considerably, but these values show the preference for cover crops and manure in various incentive applications.

No double dipping. Clean energy (ethanol) producers cannot simultaneously benefit from both 45Z and 45Q (for carbon capture pipeline) credits.

Fly high. Additional premiums can apply for production that goes into sustainable aviation fuels.

Be qualified. Producers realize higher credits for fully qualified facilities which meet criteria such as certain wage and apprenticeship thresholds.

On a recent weekday evening, we had the opportunity to connect with Mitchell Hora while he was harvesting corn on his family's farm. It seemed an appropriate setting to ask a few questions about soil health, Continuum Ag and its mission.

Q1. Mitchell, thank you for providing us with this interview opportunity. Please give our readers an introduction to you, your family farm (its regenerative farming history), and to Continuum Ag.

Answer: "We are a seventh-generation farm near Washington, Iowa. I farm alongside my dad when I'm not in the office or on the road for Continuum Ag, a company I founded in 2015 while I was attending Iowa State. Our 700 acre farm has been no-till for over thirty years and we have been cover cropping since 2013. We use up to 50% less traditional fertilizer and up to 75% less traditional pesticides when compared to what we used when we deployed more conventional farming practices. We are one example of the regenerative ag that so many are calling for."

Q2. Tell us about Continuum Ag. It appears Continuum is an analytics service provider, not unlike certain parts of Farmers Business Network (FBN) and not unlike certain agronomy departments of traditional crop retailers. What differentiates Continuum from these other participants? What is your strategic advantage?

Answer: "Continuum Ag is a data intelligence company, from farmers, for farmers. We bring actionable insights to the farm. Carbon intensity scores are one outcome we look at. I believe the following attributes help differentiate us from others: (1) the fact that we have directly implemented many solutions that our clients may be adopting or considering, (2) we focus on results that target near-term ROI improvements and long-term soil health benefits, and (3) we are transparent with our client when it comes to our fee structure. I can outline these attributes later when we discuss our carbon intensity (CI) scoring service offering."



Q3. We have spoken on numerous occasions about farming in Southeast Iowa and on the importance of soil health from a multigenerational farmer perspective. It seems that regenerative agriculture is all the rage this past year or so with a lot of attention placed on improving traditional crop growing methods from a climate perspective. What is the current state of regen ag in row crop farming?

Answer: “There is no escaping “regenerative ag” as the current favorite buzzword surrounding numerous potential advances happening in our industry. These advances include precision agriculture, automation, increased use of biologicals and nutrient use efficiency inputs, reduced tillage practices, adoption of cover crops, etc. The USDA has profiled various “climate-smart” initiatives.

At Continuum, we are focused on improved soil health as a long-term objective, and we assist farmers in reaching that goal while aiming to increase ROI along the way. We want to be viewed as the soil health people. It just so happens that initiatives which improve soil health also have favorable outcomes within the climate-smart and regenerative ag framework. Climate objectives can get political very quickly. Soil health is less political and has a broader appeal to all participants.”

Q4. Whether it's labelled regenerative ag, climate-smart ag, or soil health, reduced tillage and the use of cover crops are front and center as practices that are receiving maximum attention. We have read that reduced tillage has been utilized on something like 35% of US row crop acres but that cover crop adoption is far less at between 5-8% of total acres. What is keeping cover crops from more prevalent adoption?

Answer: “Confusion and risk. There are substantial differences in cover crop implementation strategies recommended by research institutions and those being utilized by cover crop “pioneers” in the field (based upon know how and trial-and-error). Opinions can vary on timing of seeding and termination and by location, region and soil type. There are many variables that a farmer must consider and there are elements that are outside of the farmer’s control. Weather patterns vary year to year and can greatly impact the ROI of the practice. Cover crops definitely contribute to improved soil health over the long term but can introduce additional economic risk in any given year.”

Q5. We have listened to podcasts, where no-till and strip-till legends with 40 years of practice history say that they do not see a current generation of eager adopters showing up to take reduced tillage and cover crop practices forward. What do you say to that type of opinion? Do you see a current generation of farmers clamoring to adopt these newer practices?

Answer: “No, not yet, but I am not a doomsdayer in that regard. Initiatives, like the IRA Clean Fuel Production Credits, are on the horizon that are getting people’s attention. Not everyone my age is as forward leaning, but keep in mind, I have already witnessed multi-year success with these practices on our farm. We are just further up the learning curve on these practices thanks to my dad and others.”

Q6. The IRA section 45Z Tax Credits for Clean Fuel Producers provides a significant opportunity to break through barriers to adopting certain regenerative ag practices (such as cover cropping) and it could impact an enormous amount of acres if the ethanol producers play their cards right. Specifically, how can your farm and its corn output benefit from this legislation? How can parties within the ethanol production ecosystem assure that adequate incentives flow inside the farmgate such to promote the desired practices?

Answer: “The best way I can answer this is by giving a case study based upon our farm. We utilize the Continuum Ag CI Certification service to obtain a CI score for our operation on a field by field and total operation basis. Our overall CI score is as low as -10.1g GHG/MJ, meaning that we are better than net zero. Ethanol producers who buy our corn can lower their overall carbon footprint by over 50% when sourcing net zero or better corn supply.

In our case, our blended CI score of -10.1g GHG/MJ would provide potential 45Z tax credit benefits of up to \$2.17 per bushel of supply to the ethanol producer.

How much of that benefit becomes available to us as the grower remains to be determined. One can argue that the farmer should share in a significant amount of this ecosystem benefit, particularly if the goal of the legislation is to promote the desired regenerative growing practices.

Suppose we share 50% of the overall benefit, that \$1.06 per bushel would represent a significant premium over spot market prices which have been near \$4.80 per bushel of corn recently. On our farm, that would be an incremental >\$250 per acre in revenue which far more than offsets the cost of planting a cover crop (which can range between \$25-40 per acre). This is the type of potential incentive that should get the attention of every farmer.”

Q7. What type of interest is Continuum noticing regarding these potential credits? Tell us how Continuum Ag assists a farmer in this regard.

Answer: “**Continuum Ag** has a core service offering called CI Certification. For an annual fee of \$5 per acre, we aggregate a farmer’s critical operating data for multiple purposes. This data has significant value to the farmer, just like the physical commodity.

First, the data has value from a decision making perspective inside the farmgate (particularly with the advances in precision agriculture). Second, and increasingly important, it has value within the downstream energy and food supply chains to the end user (processor) and even to the final consumer.

In recent years, this data has been utilized to qualify for market premiums attached to various crop related carbon offset and inset programs available through companies such as **ADM, Cargill, Indigo Ag** and others. In the future, the data should be even more valuable for incentives such as the 45Z credits we are discussing here.

Currently at **Continuum Ag** we are very busy helping farmers determine their CI scores with the onset of 45Z tax credits for clean fuel production scheduled to start on January 1, 2025. This will use the fall 2024 North American corn harvest and CI scoring for that crop will be impacted by specific farmer practices starting this fall, especially when it comes to cover crop utilization and manure management (two highly rewarded components of one’s CI score). We are seeing new customer interest coming at us from all angles and, getting back to your prior question, a

new wave of farmers interested in adopting regen ag practices due to 45Z.

We charge a customer \$5/ac and share a 10% of the total carbon intensity tax benefits for managing their data for this program. Independent agronomists can team up with **Continuum Ag** and we evenly split those fees enabling us to reach more and more farmers. We believe the transparency of our modest fee structure is unique and attractive relative to programs being managed directly by larger vertically integrated industry participants.

Farmers have been very confused by the opaqueness of the carbon offset program economics and we hope to reduce that perceived risk and uncertainty. Finally, while we manage the data and ultimately obtain a CI score for a farmer, we outsource the independent verification function to a third party MRV provider. In our case, we are using **EcoEngineers** of Des Moines, Iowa.”



Q8 We always close with an open-ended opportunity. Tell our readers something we did not ask about regenerative agriculture or Continuum Ag.

Answer: “We covered a lot of material. We have numerous YouTube podcasts that can be accessed at our **Continuum Ag** website which discuss these things in greater detail (available [here](#)). To conclude, I think it’s important for companies like ours to make decisions easier for our customers who are farmers like us. We are all busy and there are more and more innovations and initiatives to evaluate each growing season. Transparency of fees, costs and benefits among participants in this arena is important to gain the trust of farmers and maximize the adoption of practices that improve soil health for the long term.”



“At Continuum, we are focused on improved soil health as a long-term objective and we assist farmers in reaching that goal while aiming to increase ROI along the way.”

Mitchell Hora
CEO & Founder, Continuum Ag

Thank you, Mitchell. We wish you a safe and bountiful harvest at home and a busy fall season of CI scoring at Continuum Ag!



Disclaimer: This interview is for informational purposes only and does not constitute investment research. Capital Alliance and the author have not received compensation for this report. Continuum Ag is not an investment banking client of Capital Alliance. Neither Capital Alliance nor the author have an investment opinion on Continuum Ag.

Q3 2023 Agri-Food Tech Update:

Noteworthy Developments in Q3 2023:

AGCO Corporation and Trimble Ag Announced a \$2B Merger of Trimble Ag Assets into a Joint Venture Controlled by AGCO (summary [here](#))

- We view this as a win-win for shareholders of both companies and believe it strengthens **AGCO's** market position within the precision agriculture arena.
- We view this acquisition as somewhat of an exit for **Trimble** shareholders. Deal metrics were at an implied multiple of 13.8X EV/ 2023 Est. EBITDA and at a reported multiple of 8.5X after over \$50M in cost synergies are realized.
- This transaction substantiates our belief that a majority of exits in agriculture will continue to come from entrenched industry strategic acquirers.
- The exit of **Trimble** further consolidates the number of platforms in precision agriculture and follows the \$2.1B acquisition of **Raven Industries** by **CNH Industrial** in 2021.

USDA Revised Outlook 2023 Farm Profits: Lower

- On August 31st, the USDA revised its 2023 Farm Sector Income Forecast (available [here](#)) lower to \$141.3B, down <22.8%> from the prior year but above its multi-year

historical average from 2003-2022 (in inflation-adjusted dollars).

- In the USDA's February 2023 Farm Income Forecast, net farm income was forecast to decrease by only <15.9%>.

Outlook for the Balance of 2023:

Delays in Farm Bill Authorization Process this Fall:

- The Agriculture Improvement Act of 2018 expires this year and should have been replaced by a new farm appropriations bill on the traditional five-year cycle.
- This is typically one of the most bipartisan friendly exercises carried out by Congress. This year's process has been interrupted by emergency spending measures and by delays related to House of Representatives governance.
- Numerous issues are in play in this year's process with partisan politics evident, particularly for future spending on subsidies for "climate-smart" programs, such as those covered elsewhere in this report (summary available [here](#)).

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Public Capital Markets Commentary Across the Food Value Chain

Growth Continued to Outperform Value in Q3 2023 Despite a Continued Rise in Interest Rates

- Consumer Staples Including Most Food, Agriculture and Cyclical Groups Continued YTD Underperformance
- Trailing Multiples for Crop Input Companies Remain Lower Than Normal

Exhibit 1 and the supporting charts and tables which follow provide a snapshot summary of the first three quarters of 2023 returns in the public equity market. Key takeaways include:

- Growth outperformed value with the tech heavy NASDAQ outperforming other indices 2:1 or greater.
- Larger companies largely outperformed smaller companies.
- Historical EV/EBITDA valuation multiples for most food value chain groups continued trending lower from 2021 peaks.
- Despite the bias favoring growth company valuations at the end of the September quarter, profitable companies remained in favor vs. unprofitable companies.
- Lower sections of **Exhibit 1** for our select universe of agri-food tech recent IPOs and deSPAC merger companies shows a profitable company group average return of 5.4% vs. an unprofitable group average of <45.6%>.
- Profitable CPG company **Sovos Brands, Inc. (SOVO)** agreed to be acquired by **Campbell Soup Company**. Unprofitable **AppHarvest Inc.** and **The Tattooed Chef Inc.** were delisted due to insolvencies.

Exhibit 2 is a standalone exhibit illustrating public investor preferences for profitable companies over unprofitable companies in similar consumer or industrial end markets.



Exhibit 1: 2023 Stock Market Performance for Select Agri-Food Tech IPOs and De-SPAC Merger Companies – Segmented by Profitability and Size

Category	2023 % change
Indices:	
SP500	11.7%
NASDAQ	26.3%
DJIA	1.1%
Russell 2000	-0.2%
ETF's:	
IPO *	28.4%
MOO	-8.3%

¹ Denotes Renaissance IPO ETF

² Denotes VanEck Agribusiness ETF

Capital Alliance Food Company Universe:	Share Price 2023 % change	Median EV/LTM Revs	Median EV/LTM EBITDA	2022 year end Median EV/LTM EBITDA
Food Ingredients	-12.8%	2.4	13.7	15.3
Packaged Food CPG's	-0.2%	1.8	11.4	14.1
Food Distributors	-6.5%	0.3	9.4	11.8
Food Retailers	5.5%	0.8	8.6	10.4
Agriculture Commodity Processors	1.2%	0.5	6.5	6.6
Agriculture Land & Growers	-5.6%	4.5	14.4	16.7
Agriculture Crop Inputs	-15.9%	1.1	5.3	4.1
Agriculture Equipment	9.3%	1.5	10.2	12.4
Agriculture Animal Health & Diagnostics	8.7%	4.6	24.5	22.5
Agriculture Animal Health Distributors	-9.8%	0.8	9.5	9.9

Company	Symbol	Price/Sh Jun 30th	2023 % change	EV (US\$ m)	EV/LTM Revs	EV/LTM EBITDA
Profitable Companies:						
Krispy Kreme, Inc.	DNUT	12.47	20.8%	\$3,501.8	2.2	12.7
Utz Brands, Inc. *	UTZ	13.43	-15.3%	\$2,799.4	2.0	22.9
Sovos Brands, Inc.	SOVO	22.55	56.9%	\$2,610.9	2.8	14.7
Dole plc	DOLE	11.58	20.0%	\$2,574.1	0.3	5.8
Dutch Bros Inc.	BROS	23.25	-17.5%	\$2,511.1	3.0	22.4
Portillo's Inc.	PTLO	15.39	-5.7%	\$1,488.1	2.4	15.3
The Duckhorn Portfolio, Inc.	NAPA	10.26	-38.1%	\$1,431.0	3.6	11.8
The Vita Coco Company, Inc.	COCO	26.04	88.4%	\$1,421.7	3.1	34.6
Mission Produce, Inc.	AVO	9.68	-16.7%	\$952.8	1.0	21.6
Whole Earth Brands, Inc. *	FREE	3.6	-11.5%	\$586.9	1.1	11.6
Vital Farms, Inc.	VITL	11.58	-22.4%	\$393.2	0.9	2.2
Average			5.4%		2.0	16.0

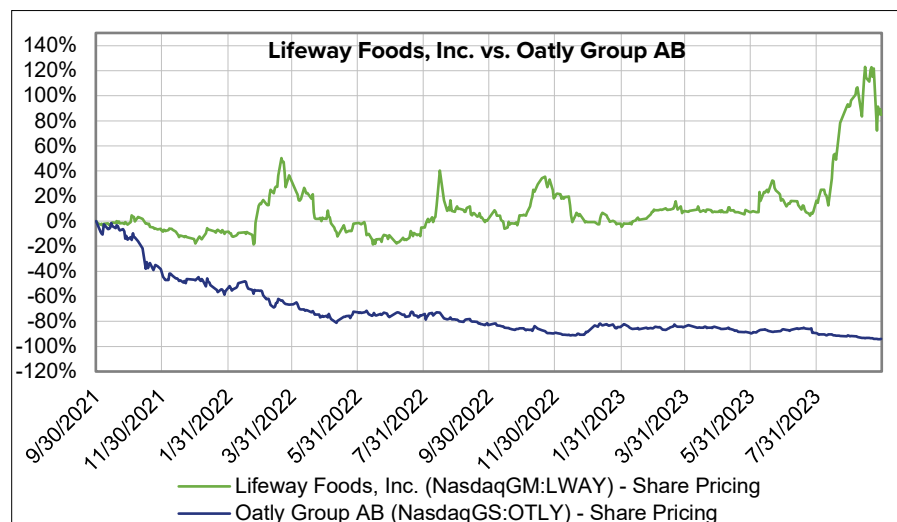
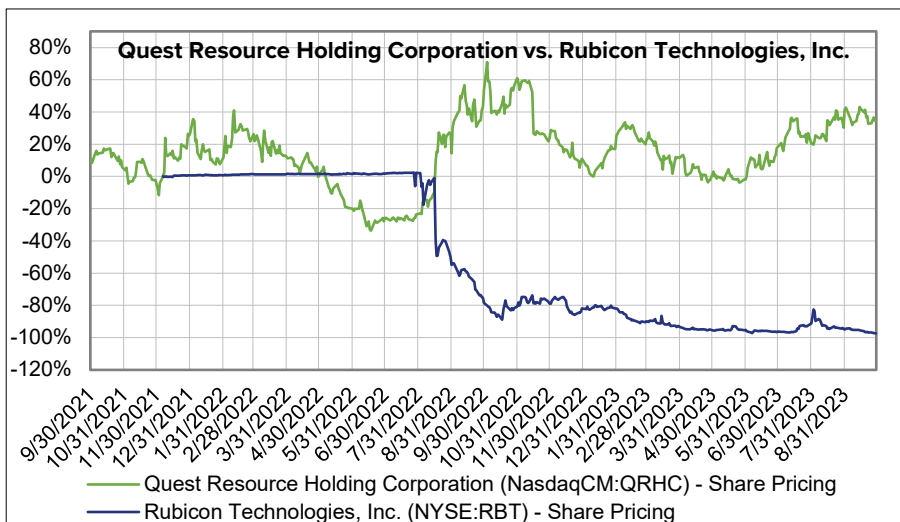
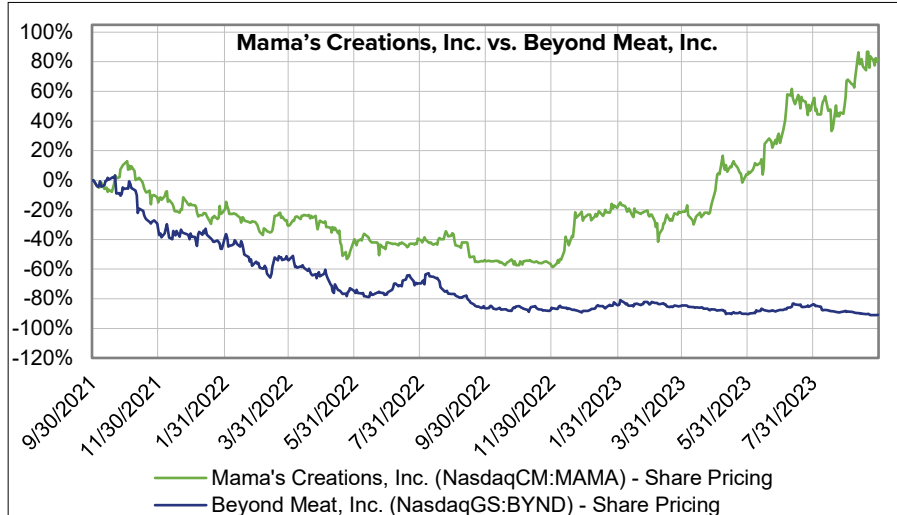
* Denotes De-SPAC Merger Company

Company	Symbol	Price/Sh Jun 30th	2023 % change	EV (US\$ m)	EV/LTM Revs	EV/LTM EBITDA
Unprofitable Companies Over \$500M Enterprise Value:						
Ginkgo Bioworks Holdings, Inc. *	DNA	1.81	7.1%	\$3,104.1	9.5	NM
Beyond Meat, Inc.	BYND	9.62	-21.9%	\$1,625.0	4.6	NM
Sweetgreen, Inc.	SG	11.75	37.1%	\$1,338.2	2.6	NM
Oatly Group AB	OTLY	0.8961	-48.5%	\$819.3	1.1	NM
Planet Labs PBC *	PL	2.6	-40.2%	\$401.3	1.9	NM
Average			-13.3%		3.9	
Unprofitable Companies Under \$500M Enterprise Value:						
Vintage Wine Estates, Inc.	VWE	0.57	-82.5%	\$338.2	1.2	NM
Hydrofarm Holdings Group, Inc.	HYFM	1.22	-21.3%	\$219.0	0.8	NM
Local Bounti Corporation *	LOCL	2.45	-86.4%	\$215.0	8.0	NM
Benson Hill, Inc. *	BHIL	0.33	-87.0%	\$169.3	0.4	NM
GrowGeneration Corp.	GRWG	2.92	-25.5%	\$153.6	0.6	NM
AppHarvest, Inc. *	APPH.Q	0.02	-97.0%	\$138.1	6.2	NM
The Real Good Food Company, Inc.	RGF	3.35	-49.5%	\$111.8	0.8	NM
Tattooed Chef, Inc. *	TTCF.Q	0.03	-97.5%	\$57.3	0.3	NM
Agrify Corporation	AGFY	2.17	-67.4%	\$35.1	0.5	NM
Stryve Foods, Inc. *	SNAX	3.12	-71.5%	\$27.7	1.2	NM
Laird Superfood, Inc.	LSF	1.03	22.6%	-\$0.6	NM	NM
Average			-60.3%		2.0	
Unprofitable Company Average YTD			-45.6%		2.6	

Exhibit 2: Profits Matter – Two Year Comparison of Select Food Chain Companies

Exhibit 2 illustrates the difference in investor-returns over the most recent two years when comparing profitable companies versus unprofitable companies across similar end markets.

- Mama's Creations, Inc. (NasdaqCM:MAMA) is a profitable and growing real meat products company which has scaled via acquisition and new product introductions vs. Beyond Meat, Inc. (NasdaqGS:BYND) which has failed to create new customer demand (scale towards profitability) within the plant-based food (meat substitute) market.
- Lifeway Food's, Inc. (NasdaqGM:LWAY) is a profitable and growing probiotic Kefir (fermented dairy) product company which has scaled via acquisition and new product introductions vs. Oatly Group AB (NasdaqGS:OTLY) which has failed to achieve profitability in the dairy substitute market.
- Quest Resource Holding Corp. (NasdaqCM:QRHC) is an asset lite, cashflow positive and growing provider of sustainable, waste handling solutions (including food waste recycling/upcycling) vs. Rubicon Technologies, Inc. (NYSE:RBT) which is an unprofitable competitor seeking to scale towards cashflow positive operations.
- Key Takeaway: These three charts illustrate that public equity investors have shown a substantial preference for EBITDA positive companies over disruptive, cash burning enterprises across the most recent two-year period.



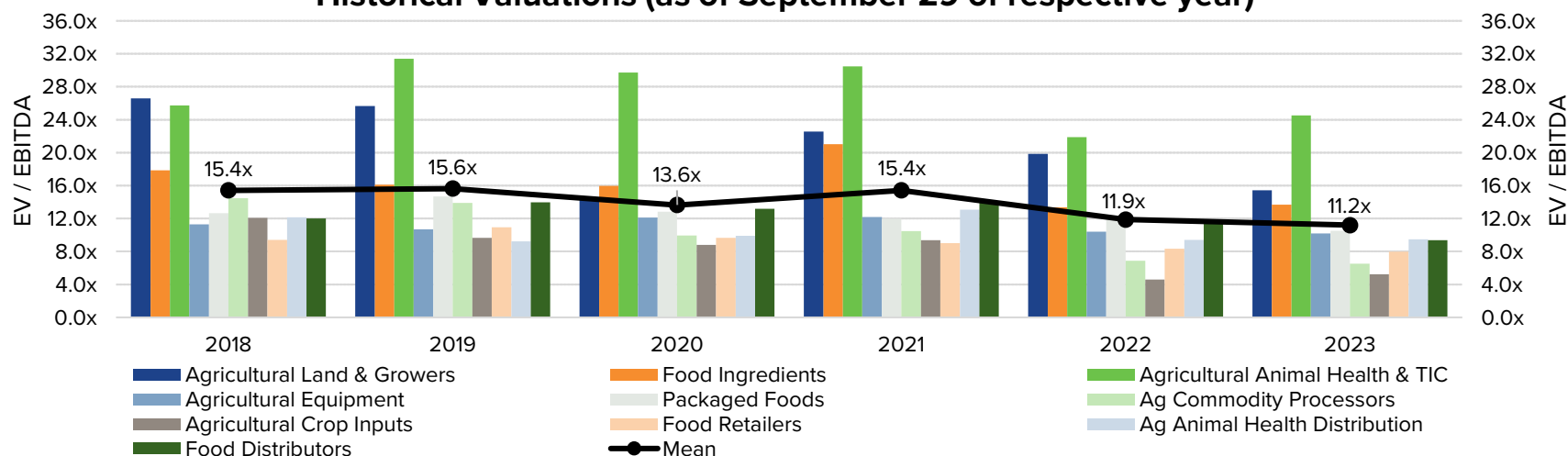
Capital Alliance Food Value Chain Companies

Public Trading Valuation Data Summary

(US dollars in Billions)

Segment	Aggregate Market Cap	Aggregate Enterprise Value	Aggregate LTM Revenue	Aggregate LTM EBITDA	Median EV/LTM EBITDA
Food Ingredients	96.3	124.2	44.1	7.3	13.7x
Packaged Foods	365.9	475.9	218.4	34.3	10.5x
Food Distributors	58.2	85.0	214.3	7.2	9.4x
Food Retailers	802.8	913.6	1,260.2	69.9	8.0x
Ag Commodity Processors	78.2	119.7	251.1	14.2	6.5x
Agricultural Land & Growers	6.0	10.7	5.0	0.6	14.4x
Agricultural Crop Inputs	144.9	185.1	167.2	33.4	5.3x
Agricultural Equipment	362.8	503.3	248.3	45.4	10.2x
Agricultural Animal Health & TIC	138.6	152.2	20.3	6.3	24.5x
Ag Animal Health Distribution	55.9	65.4	283.7	5.6	9.5x
Mean				22.4	11.2x
Min				0.6	5.3x
Max				69.9	24.5x
Standard deviation				21.5	5.2x

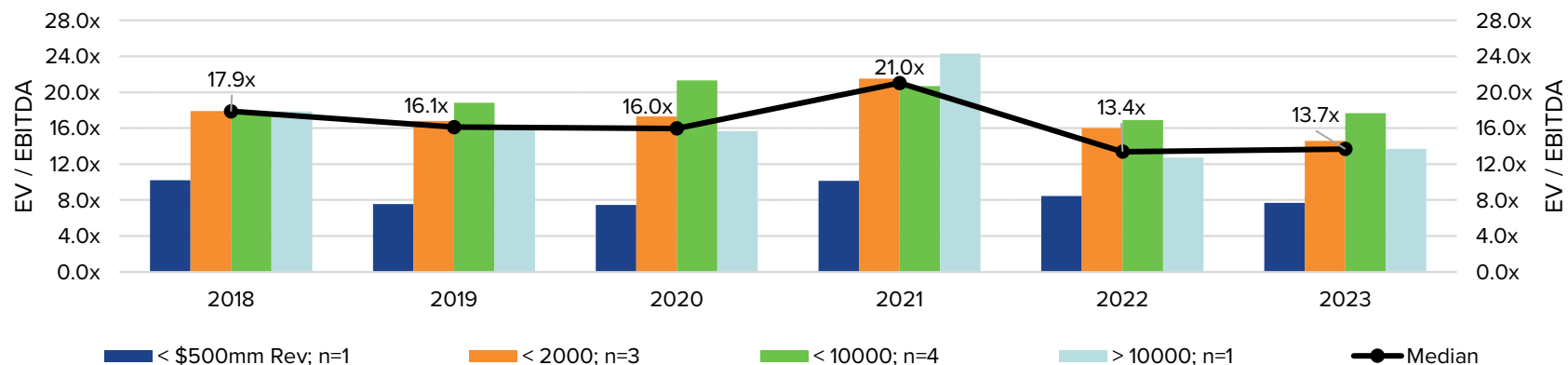
Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

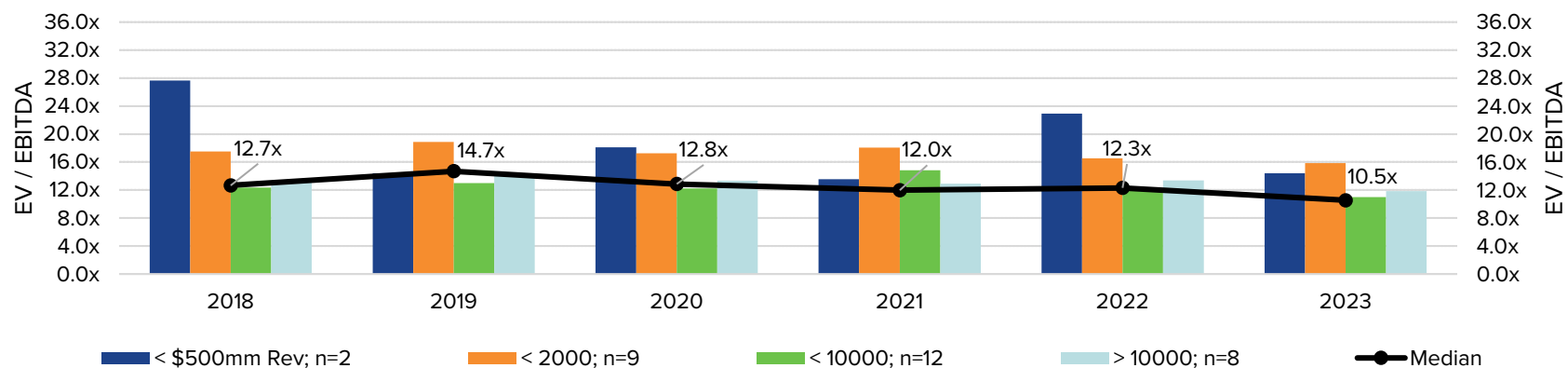
Food Ingredients

Historical Valuations (as of September 29 of respective year)



Packaged Foods

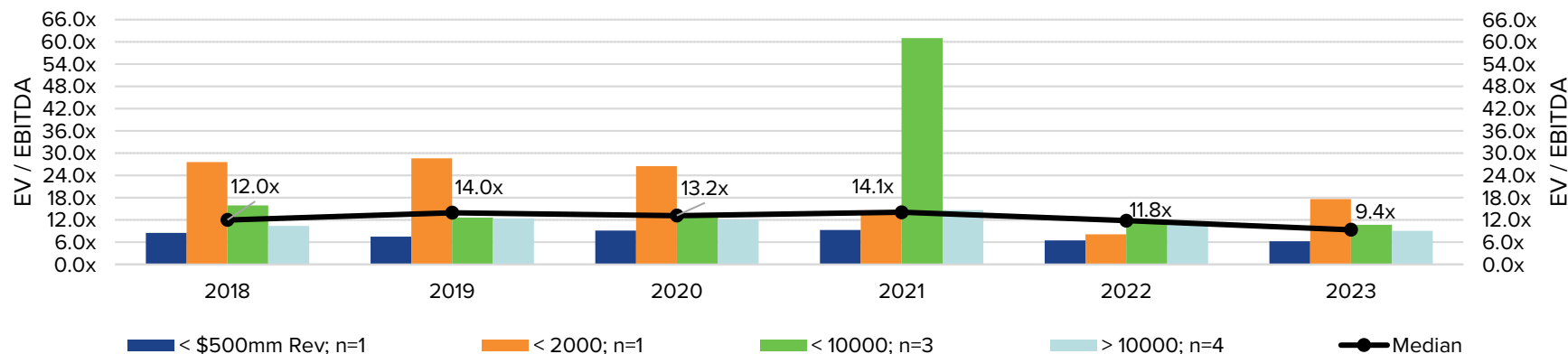
Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

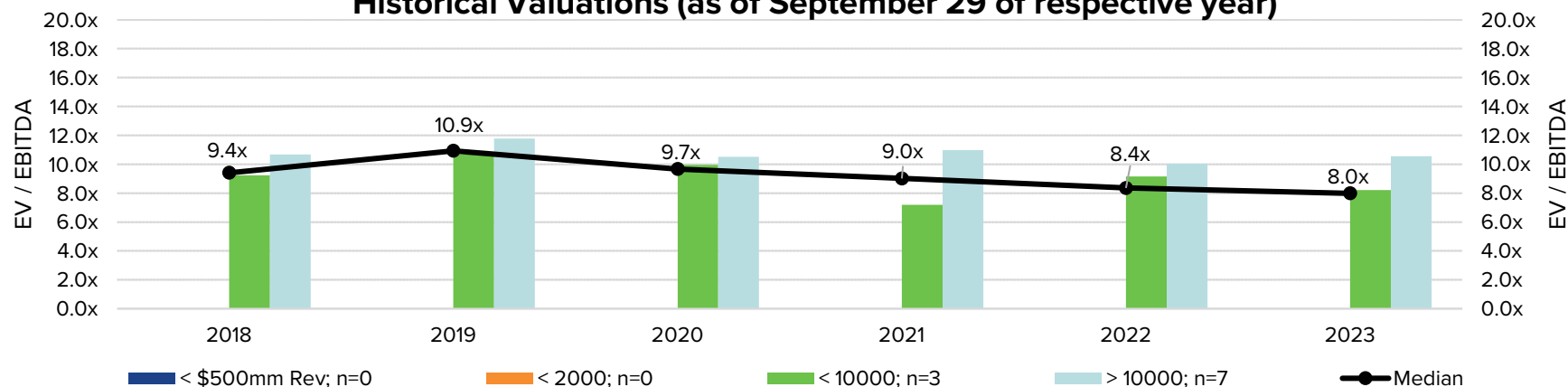
Food Distributors

Historical Valuations (as of September 29 of respective year)



Food Retailers

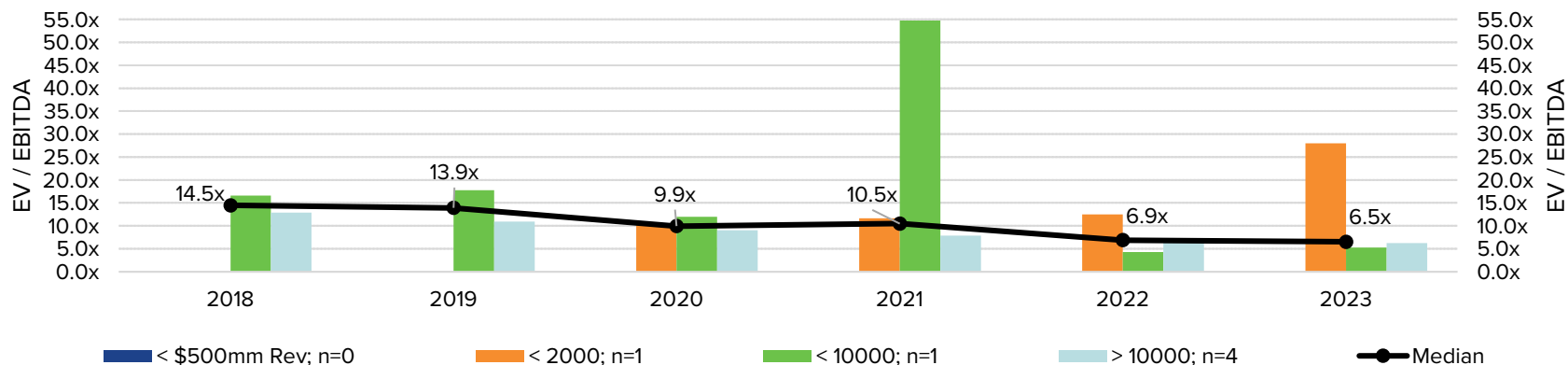
Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

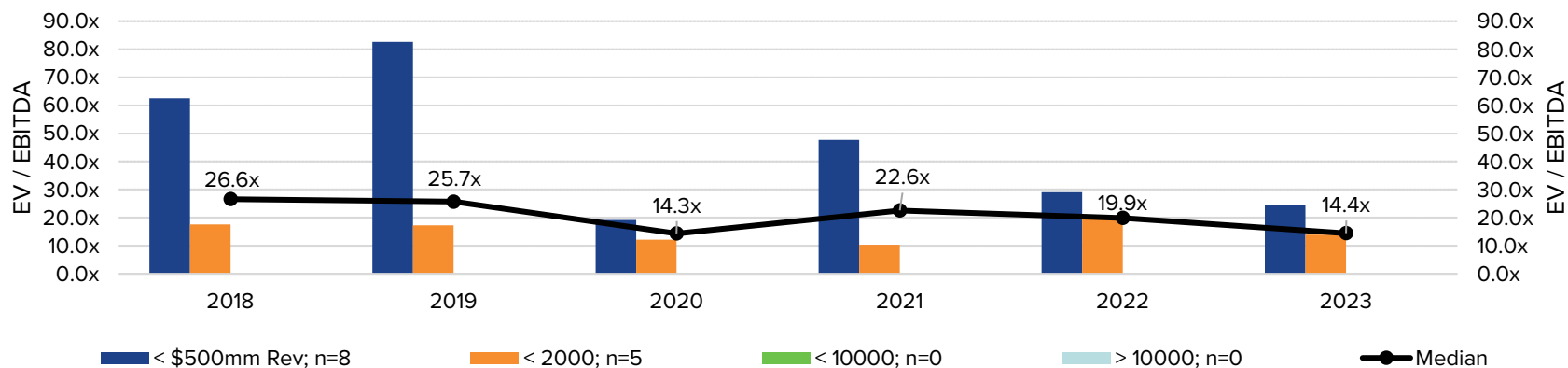
Agricultural Commodity Processors

Historical Valuations (as of September 29 of respective year)



Agricultural Land & Growers

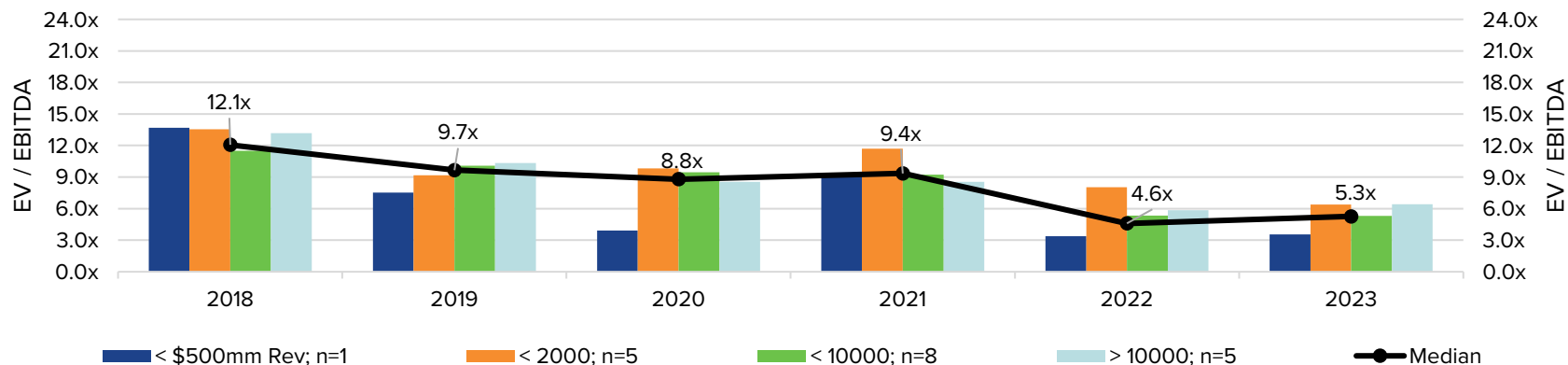
Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

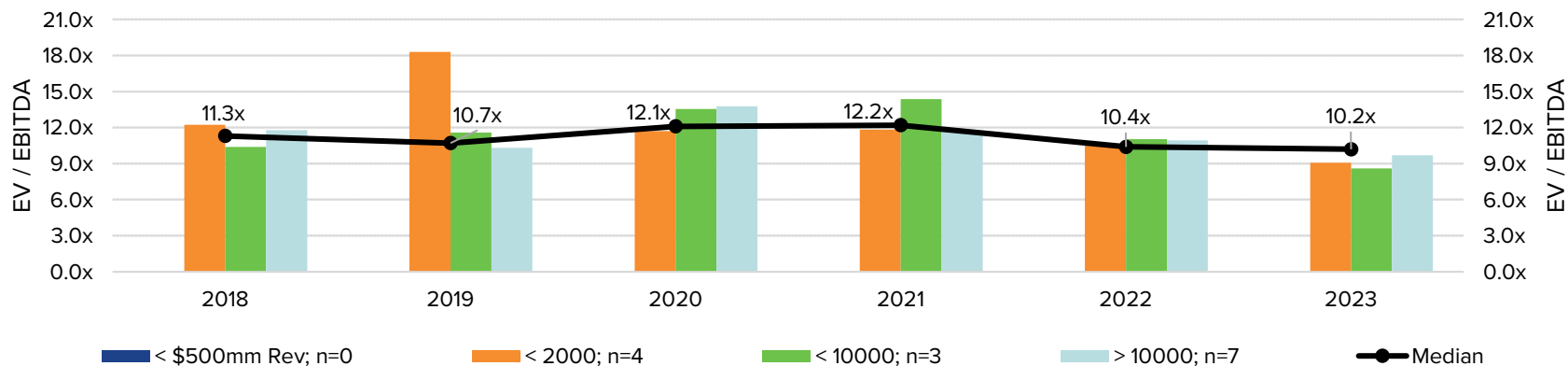
Agricultural Crop Inputs

Historical Valuations (as of September 29 of respective year)



Agricultural Equipment

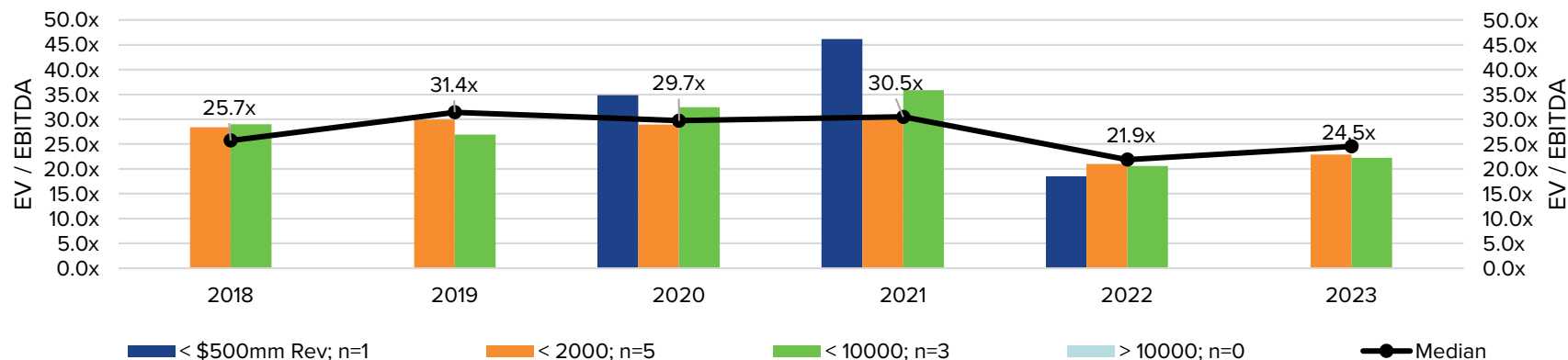
Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

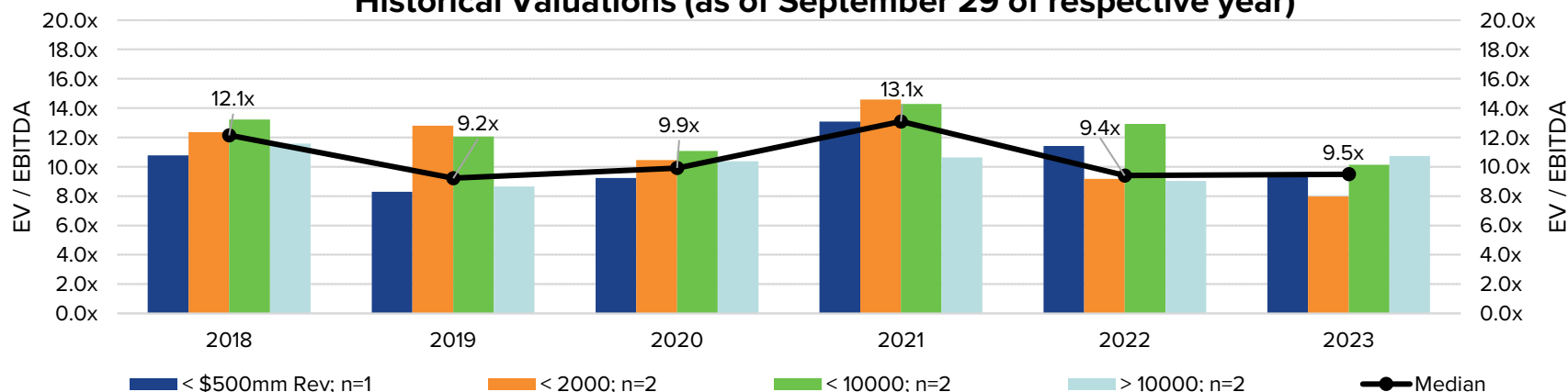
Agricultural Animal Health & Diagnostics

Historical Valuations (as of September 29 of respective year)



Agricultural Animal Health Distribution

Historical Valuations (as of September 29 of respective year)



Capital Alliance Food Value Chain Segments

Capital Alliance Food Chain Companies

Public Trading Valuation Data

(USD in millions except stock price)

Company	Ticker	Price as of 09/29/2023	2023 %	% 52-week range	Market Cap	Enterprise Value	LTM Revenues	LTM EBITDA Margin	LTM Net Income Margin	EV/LTM Revenue	EV/LTM EBITDA	P/LTM Diluted EPS	P/Tangible BV
Food Ingredients													
McCormick & Company, Incorporated	NYSE:MKC	75.64	-8.75%	21.19%	20,352.0	25,152.3	6,605.1	18.0%	9.8%	3.8x	20.0x	29.2x	NM
International Flavors & Fragrances Inc.	NYSE:IFF	68.17	-34.98%	10.78%	17,400.6	28,194.6	11,863.0	15.7%	-18.6%	2.4x	13.7x	NM	NM
Ingredion Incorporated	NYSE:INGR	98.40	0.48%	55.42%	6,508.2	8,757.2	8,216.0	13.3%	7.0%	1.1x	7.4x	11.5x	3.1x
Sensient Technologies Corporation	NYSE:SXT	58.48	-19.80%	5.13%	2,470.8	3,175.3	1,453.1	16.9%	9.1%	2.2x	12.3x	18.6x	4.0x
Symrise AG	XTRA:SY1	95.60	-12.00%	10.40%	13,361.8	15,994.3	5,209.4	18.2%	5.0%	3.1x	19.3x	53.0x	18.3x
Givaudan SA	SWX:GIVN	3,273.96	6.86%	47.99%	30,209.6	35,934.1	7,822.5	18.8%	12.4%	4.6x	23.9x	32.0x	NM
T. Hasegawa Co., Ltd.	TSE:4958	20.42	-7.65%	34.09%	840.2	636.1	448.0	19.1%	10.5%	1.4x	7.7x	18.5x	1.3x
Balchem Corporation	NasdaqGS:BCPC	124.04	1.58%	27.07%	3,999.0	4,357.0	940.6	21.3%	10.6%	4.6x	21.2x	40.4x	133.3x
Corbion N.V.	ENXTAM:CRBN	19.96	-41.34%	3.52%	1,183.2	1,994.4	1,646.8	11.5%	4.4%	1.2x	10.2x	17.0x	2.4x
Mean			-12.84%	23.95%		13,799.5		17.0%	5.6%	2.7x	15.1x	27.5x	27.1x
Median			-8.75%	21.19%		8,757.2		18.0%	9.1%	2.4x	13.7x	23.9x	3.6x
Packaged Foods													
Saputo Inc.	TSX:SAP	20.99	-15.23%	11.91%	8,888.3	11,622.8	13,383.9	8.1%	3.5%	0.9x	10.4x	19.2x	4.8x
Premium Brands Holdings Corporation	TSX:PBH	70.30	15.64%	48.95%	3,122.2	5,104.9	4,772.8	6.0%	1.8%	1.1x	16.5x	37.3x	29.3x
Maple Leaf Foods Inc.	TSX:MFI	19.29	6.80%	56.73%	2,342.4	3,807.7	3,671.6	2.6%	-7.9%	1.0x	31.9x	NM	4.4x
Hormel Foods Corporation	NYSE:HRM	38.03	-16.51%	9.69%	20,782.7	23,408.1	12,195.4	11.5%	7.2%	1.9x	12.0x	23.8x	21.0x
Mondelez International, Inc.	NasdaqGS:MDLZ	69.40	4.13%	61.50%	94,413.0	113,976.0	34,131.0	19.9%	12.1%	3.3x	14.6x	23.1x	NM
Conagra Brands, Inc.	NYSE:CAG	27.42	-29.15%	1.07%	13,103.1	22,547.3	12,276.7	19.3%	8.8%	1.8x	8.9x	19.3x	NM
Campbell Soup Company	NYSE:CPB	41.08	-27.61%	1.91%	12,239.6	17,019.6	9,357.0	19.2%	9.2%	1.8x	7.9x	14.4x	NM
The J. M. Smucker Company	NYSE:SJM	122.91	-22.43%	0.67%	12,554.3	16,348.6	8,461.4	20.2%	-0.2%	1.9x	9.0x	NM	NM
The Kraft Heinz Company	NasdaqGS:KHC	33.64	-17.37%	11.75%	41,319.8	60,621.8	27,096.0	22.7%	11.7%	2.2x	8.0x	13.1x	NM
General Mills, Inc.	NYSE:GIS	63.99	-23.69%	1.32%	37,196.1	49,240.6	20,281.3	19.6%	12.1%	2.4x	11.7x	15.6x	NM
Post Holdings, Inc.	NYSE:POST	85.74	-5.01%	29.00%	5,248.9	11,235.1	6,624.7	14.4%	4.8%	1.7x	11.3x	16.7x	NM
The Hershey Company	NYSE:HSY	200.08	-13.60%	1.01%	40,909.9	45,742.3	10,858.4	25.9%	16.5%	4.2x	16.0x	23.0x	NM
Lancaster Colony Corporation	NasdaqGS:LANC	165.03	-16.36%	21.55%	4,542.9	4,484.5	1,822.5	11.9%	6.1%	2.5x	19.4x	40.8x	7.0x
Cal-Maine Foods, Inc.	NasdaqGS:CALM	48.42	-11.07%	23.29%	2,371.8	1,724.1	2,947.2	29.4%	21.5%	0.6x	1.7x	3.1x	1.5x
Flowers Foods, Inc.	NYSE:FLO	22.18	-22.83%	1.24%	4,687.1	6,049.1	5,003.4	9.9%	4.5%	1.2x	10.2x	21.1x	39.9x
Nomad Foods Limited	NYSE:NOMD	15.22	-11.72%	37.47%	2,605.7	4,662.9	3,307.9	16.2%	6.9%	1.4x	8.3x	11.6x	NM
TreeHouse Foods, Inc.	NYSE:THS	43.58	-11.75%	13.95%	2,457.0	4,207.5	3,609.6	9.6%	-2.1%	1.2x	10.2x	37.2x	NM
Lamb Weston Holdings, Inc.	NYSE:LW	92.46	3.47%	38.95%	13,480.5	16,793.9	5,890.3	21.6%	17.2%	2.9x	10.6x	13.3x	158.5x
The Hain Celestial Group, Inc.	NasdaqGS:HAIN	10.37	-35.91%	7.90%	927.9	1,795.2	1,796.6	7.7%	-6.5%	1.0x	11.4x	NM	NM
J&J Snack Foods Corp.	NasdaqGS:JJSF	163.65	9.31%	71.83%	3,156.8	3,258.5	1,515.4	10.2%	4.3%	2.2x	19.0x	48.0x	6.1x
B&G Foods, Inc.	NYSE:BGS	9.89	-11.30%	3.32%	715.0	2,985.1	2,133.1	14.5%	-1.0%	1.4x	9.0x	NM	NM
Hostess Brands, Inc.	NasdaqCM:TSWNK	33.31	48.44%	96.46%	4,425.6	5,320.8	1,383.4	21.2%	12.3%	3.8x	17.5x	26.6x	NM
Fresh Del Monte Produce Inc.	NYSE:FDP	25.84	-1.34%	28.95%	1,243.4	1,824.3	4,402.4	6.4%	3.1%	0.4x	5.1x	9.0x	0.8x
John B. Sanfilippo & Son, Inc.	NasdaqGS:JBSS	98.80	21.50%	46.23%	1,143.2	1,155.8	999.7	10.8%	6.3%	1.2x	10.5x	18.3x	4.2x
Tootsie Roll Industries, Inc.	NYSE:TR	29.86	-27.75%	0.25%	2,119.0	2,024.4	725.1	16.4%	11.0%	2.8x	16.8x	26.3x	3.9x
The Simply Good Foods Company	NasdaqCM:SMPL	34.52	-9.23%	31.32%	3,436.4	3,735.1	1,196.4	17.9%	10.6%	3.1x	16.5x	27.4x	NM
SunOpta Inc.	TSX:SOY	3.37	-59.91%	0.61%	398.2	847.0	882.6	7.5%	-3.2%	1.0x	10.4x		
BellRing Brands, Inc.	NYSE:BRBR	41.23	60.80%	96.46%	5,419.5	6,312.2	1,573.4	18.7%	9.7%	4.0x	21.2x	36.2x	NM
Lifeway Foods, Inc.	NasdaqGM:LWAY	10.34	86.31%	66.18%	151.7	150.4	151.1	8.2%	3.8%	1.0x	12.0x	28.1x	4.6x
Mama's Creations, Inc.	NasdaqCM:MAMA	4.37	143.45%	91.25%	162.6	172.3	96.4	9.5%	6.3%	1.8x	16.8x	27.2x	114.9x
Kellanova	NYSE:K	59.51	-16.47%	5.74%	20,373.1	27,755.1	15,873.0	12.4%	5.5%	1.7x	13.1x	23.7x	NM
Mean			-0.21%	29.63%		15,352.7		14.5%	6.3%	1.9x	12.8x	23.2x	28.6x
Median			-11.72%	21.55%		5,104.9		14.4%	6.3%	1.8x	11.4x	23.1x	5.4x

Capital Alliance Food Value Chain Segments

Capital Alliance Food Chain Companies

Public Trading Valuation Data

(USD in millions except stock price)

Company	Ticker	Price as of 09/29/2023	2023 %	% 52-week range	Market Cap	Enterprise Value	LTM Revenues	LTM EBITDA Margin	LTM Net Income Margin	EV/LTM Revenue	EV/LTM EBITDA	P/LTM Diluted EPS	P/Tangible BV
Food Distributors													
Sysco Corporation	NYSE:SY	66.05	-13.60%	5.44%	33,350.4	43,804.2	76,324.7	4.5%	2.3%	0.6x	11.8x	19.0x	NM
United Natural Foods, Inc.	NYSE:UNFI	14.14	-63.47%	1.66%	827.2	4,039.2	30,272.0	1.6%	0.1%	0.1x	4.9x	35.4x	0.8x
The Chefs' Warehouse, Inc.	NasdaqGS:CHEF	21.18	-36.36%	0.81%	840.1	1,699.9	3,054.7	4.6%	0.7%	0.6x	9.2x	40.1x	NM
Performance Food Group Company	NYSE:PFGC	58.86	0.80%	74.56%	9,193.6	13,910.5	53,354.7	2.4%	0.7%	0.3x	9.4x	23.2x	21.1x
US Foods Holding Corp.	NYSE:USFD	39.70	16.70%	74.67%	9,802.0	14,364.0	34,987.0	3.8%	1.3%	0.4x	10.1x	21.2x	NM
HF Foods Group Inc.	NasdaqCM:HFFG	3.97	-2.22%	17.58%	215.0	390.6	1,178.8	1.4%	-1.2%	0.3x	17.6x	NM	13.7x
SpartanNash Company	NasdaqGS:SPTN	22.00	-27.25%	8.32%	761.6	1,575.3	9,825.3	1.9%	0.4%	0.2x	6.4x	19.1x	1.6x
Premium Brands Holdings Corporation	TSX:PBH	70.30	15.64%	48.95%	3,122.2	5,104.9	4,772.8	6.0%	1.8%	1.1x	16.5x	37.3x	29.3x
Colabor Group Inc.	TSX:GCL	0.83	51.43%	86.00%	84.4	151.3	482.6	3.5%	1.0%	0.3x	6.2x	18.8x	9.9x
Mean			-6.48%	35.33%		9,448.9		3.3%	0.8%	0.4x	10.2x	26.8x	12.7x
Median			-2.22%	17.58%		4,039.2		3.5%	0.7%	0.3x	9.4x	22.2x	11.8x
Food Retailers													
Costco Wholesale Corporation	NasdaqGS:COST	564.96	23.76%	94.19%	250,160.3	243,810.3	242,290.0	4.2%	2.6%	1.0x	22.9x	39.9x	10.0x
Walmart Inc.	NYSE:WMT	159.93	12.79%	84.33%	430,461.8	489,437.8	630,794.0	5.9%	2.2%	0.8x	12.1x	30.8x	8.4x
Target Corporation	NYSE:TGT	110.57	-25.81%	3.29%	51,039.7	68,694.7	108,008.0	7.0%	3.1%	0.6x	8.6x	15.2x	4.3x
The Kroger Co.	NYSE:KR	44.75	0.38%	34.15%	32,189.4	49,659.4	148,038.0	5.2%	1.1%	0.3x	5.8x	20.0x	4.7x
Grocery Outlet Holding Corp.	NasdaqGS:GO	28.85	-1.16%	28.99%	2,849.7	4,134.7	3,824.7	5.2%	1.9%	1.1x	12.5x	40.6x	8.3x
Sprouts Farmers Market, Inc.	NasdaqGS:SFM	42.80	32.22%	97.11%	4,365.9	5,719.1	6,593.1	7.8%	3.9%	0.9x	7.2x	17.8x	9.0x
Weis Markets, Inc.	NYSE:WMK	63.00	-23.44%	11.54%	1,694.6	1,519.7	4,780.3	5.3%	2.5%	0.3x	4.9x	14.4x	1.3x
Casey's General Stores, Inc.	NasdaqGS:CASY	271.52	21.03%	85.38%	10,118.6	11,331.7	14,509.1	6.6%	3.2%	0.8x	11.8x	22.0x	4.7x
Albertsons Companies, Inc.	NYSE:ACI	22.75	9.69%	35.92%	13,096.7	27,384.1	78,389.6	5.2%	1.8%	0.3x	5.4x	10.8x	NM
Mean			5.49%	52.77%		100,188.0		5.8%	2.5%	0.7x	10.1x	23.5x	6.3x
Median			9.69%	35.92%		27,384.1		5.3%	2.5%	0.8x	8.6x	20.0x	6.5x

Capital Alliance Food Value Chain Segments

Capital Alliance Food Chain Companies

Public Trading Valuation Data

(USD in millions except stock price)

Company	Ticker	Price as of 09/29/2023	2023 %	% 52-week range	Market Cap	Enterprise Value	LTM Revenues	LTM EBITDA Margin	LTM Net Income Margin	EV/LTM Revenue	EV/LTM EBITDA	P/LTM Diluted EPS	P/Tangible BV
<i>Agricultural Commodity Processors</i>													
Archer-Daniels-Midland Company	NYSE:ADM	75.42	-18.77%	19.39%	40,432.8	49,171.8	99,884.0	5.1%	4.2%	0.5x	7.7x	10.1x	2.2x
Bunge Limited	NYSE:BG	108.25	8.50%	75.85%	16,307.0	21,539.0	63,796.0	5.4%	3.1%	0.3x	4.1x	8.4x	1.7x
Golden Agri-Resources Ltd	SGX:ESH	0.19	4.09%	42.86%	2,461.1	4,589.8	10,825.0	14.2%	5.3%	0.4x	2.9x	4.3x	0.5x
GrainCorp Limited	ASX:GNC	4.56	-9.67%	15.74%	1,015.4	2,075.6	5,744.0	6.9%	3.9%	0.4x	5.3x	4.8x	1.1x
United Malt Group Limited	ASX:UMG	3.19	35.16%	99.07%	953.7	1,366.2	1,015.2	4.1%	-0.5%	1.3x	28.0x	NM	2.1x
Wilmar International Limited	SGX:F34	2.73	-12.17%	32.53%	17,052.7	40,941.0	69,803.2	5.2%	2.6%	0.6x	10.1x	9.6x	1.2x
Mean			1.19%	47.57%		19,947.2		6.8%	3.1%	0.6x	9.7x	7.4x	1.5x
Median			-2.79%	37.69%		13,064.4		5.3%	3.5%	0.5x	6.5x	8.4x	1.4x
<i>Agricultural Land & Growers</i>													
Farmland Partners Inc.	NYSE:FPI	10.26	-17.66%	16.63%	497.4	1,069.1	59.2	54.7%	28.8%	18.0x	32.7x	40.0x	1.0x
Gladstone Land Corporation	NasdaqGM:LAND	14.23	-22.45%	4.47%	510.0	1,106.7	91.3	78.5%	13.7%	12.1x	15.4x	NM	0.7x
Calavo Growers, Inc.	NasdaqGS:CVGW	25.23	-14.18%	15.86%	448.1	549.4	974.3	3.1%	-0.4%	0.6x	13.3x	NM	2.4x
Limoneira Company	NasdaqGS:LMNR	15.32	25.47%	62.61%	275.4	333.7	178.1	-6.9%	5.7%	1.9x	NM	28.4x	1.6x
Tejon Ranch Co.	NYSE:TRC	16.22	-13.91%	30.15%	433.5	431.0	67.3	21.7%	21.1%	6.4x	18.8x	30.7x	1.1x
Alico, Inc.	NasdaqGS:ALCO	24.96	4.57%	22.41%	190.0	316.2	40.2	24.9%	-50.2%	7.9x	30.9x	NM	0.8x
Adecoagro S.A.	NYSE:AGRO	11.69	41.01%	94.23%	1,254.7	2,547.5	1,406.8	30.0%	6.7%	1.8x	5.1x	13.6x	1.1x
Costa Group Holdings Limited	ASX:CGC	2.02	8.06%	82.19%	938.6	1,582.9	944.8	10.7%	1.5%	1.7x	11.3x	67.7x	3.0x
T&G Global Limited	NZSE:TGG	1.23	-18.33%	13.16%	150.3	376.3	872.8	2.3%	-1.8%	0.4x	10.1x	NM	0.5x
Cresud Sociedad Anónima, Comercial, Inmobiliaria, Financiera y Agropecuaria	BASE:CRES	1.59	22.16%	77.93%	930.7	1,708.0	277.7	-32.2%	59.2%	6.2x	NM	7.5x	1.5x
Select Harvests Limited	ASX:SHV	2.59	-2.38%	21.24%	313.3	582.0	128.6	-24.3%	-48.7%	4.5x	NM	NM	1.3x
Duxton Farms Limited	ASX:DBF	0.86	-22.82%	6.41%	35.6	73.1	4.9	-175.0%	-138.3%	15.1x	NM	NM	0.6x
Australian Dairy Nutritionals Limited	ASX:AHF	0.01	-62.01%	5.27%	7.6	6.9	3.9	-105.6%	-156.4%	1.8x	NM	NM	0.3x
Mean			-5.58%	34.81%		821.8		-9.1%	-19.9%	6.0x	17.2x	31.6x	1.2x
Median			-13.91%	21.24%		549.4		3.1%	1.5%	4.1x	14.4x	29.5x	1.1x

Capital Alliance Food Value Chain Segments

Capital Alliance Food Chain Companies Public Trading Valuation Data

(USD in millions except stock price)

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<i>Agricultural Crop Inputs</i>													
Corteva, Inc.	NYSE:CTVA	51.16	-12.96%	12.56%	36,311.5	39,249.5	17,531.0	18.8%	5.3%	2.2x	11.3x	33.1x	6.4x
KWS SAAT SE & Co. KGaA	XTRA:KWS	58.85	-14.10%	19.59%	1,942.0	2,670.4	1,998.9	17.6%	8.2%	1.3x	7.5x	12.2x	2.0x
The Mosaic Company	NYSE:MOS	35.60	-18.85%	15.99%	11,829.2	15,189.4	16,828.1	22.4%	12.9%	0.9x	3.6x	5.6x	1.0x
CF Industries Holdings, Inc.	NYSE:CF	85.74	0.63%	49.01%	16,543.3	19,284.3	8,716.0	50.6%	27.4%	2.2x	4.2x	7.1x	4.5x
FMC Corporation	NYSE:FMC	66.97	-46.34%	2.42%	8,353.4	12,267.5	5,358.0	23.2%	11.6%	2.3x	9.6x	11.7x	NM
American Vanguard Corporation	NYSE:AVD	10.93	-49.65%	5.24%	320.2	490.7	569.5	8.3%	2.0%	0.9x	9.1x	27.3x	2.2x
Nutrien Ltd.	TSX:NTR	62.01	-15.10%	26.37%	30,663.0	43,324.0	32,583.0	24.2%	11.4%	1.3x	5.3x	8.8x	2.8x
The Andersons, Inc.	NasdaqGS:ANDE	51.51	47.21%	91.57%	1,725.6	2,566.9	16,798.2	2.1%	0.5%	0.2x	6.6x	24.3x	1.7x
Yara International ASA	OB:YAR	38.00	-13.05%	30.44%	9,680.8	13,569.7	19,661.0	12.0%	4.9%	0.7x	5.3x	9.9x	1.5x
ICL Group Ltd	TASE:ICL	5.52	-24.03%	20.56%	7,122.0	9,549.3	8,542.0	31.5%	16.5%	1.1x	3.5x	5.3x	1.5x
K+S Aktiengesellschaft	XTRA:SDF	18.18	-7.40%	29.48%	3,480.4	3,192.6	5,428.2	37.3%	21.0%	0.6x	1.6x	3.1x	0.5x
CVR Partners, LP	NYSE:UAN	82.61	-17.87%	16.92%	873.2	1,360.8	778.0	44.1%	30.5%	1.7x	3.9x	3.7x	2.5x
OCI N.V.	ENXTAM:OCI	27.93	-21.80%	25.49%	5,892.0	9,306.5	7,271.0	25.9%	2.6%	1.3x	5.2x	32.2x	7.0x
Intrepid Potash, Inc.	NYSE:IPI	25.16	-12.85%	26.75%	306.4	288.9	262.0	30.3%	9.9%	1.1x	3.5x	12.7x	0.4x
Compass Minerals International, Inc.	NYSE:CMP	27.95	-31.83%	6.85%	1,150.3	1,813.3	1,220.5	15.6%	0.9%	1.5x	8.6x	89.4x	3.7x
Arab Potash Company	ASE:APOT	40.58	-18.04%	1.77%	3,381.1	2,873.7	1,490.8	59.0%	45.9%	1.9x	2.9x	4.9x	1.5x
Nufarm Limited	ASX:NUF	3.07	-26.43%	11.70%	1,166.4	1,996.9	2,388.5	9.9%	4.4%	0.8x	8.3x	12.2x	2.1x
CVR Energy, Inc.	NYSE:CVI	34.03	8.58%	58.29%	3,421.1	4,521.1	9,902.0	12.1%	5.4%	0.5x	3.7x	6.5x	4.5x
SpartanNash Company	NasdaqGS:SPTN	22.00	-27.25%	8.32%	761.6	1,575.3	9,825.3	1.9%	0.4%	0.2x	6.4x	19.1x	1.6x
Mean			-15.85%	24.17%		9,741.6		23.5%	11.7%	1.2x	5.8x	17.3x	2.6x
Median			-17.87%	19.59%		3,192.6		22.4%	8.2%	1.1x	5.3x	11.7x	2.0x

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Capital Alliance Food Chain Companies

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Agricultural Equipment													
Deere & Company	NYSE:DE	377.38	-11.98%	37.58%	108,685.7	166,692.7	61,361.0	23.6%	16.4%	2.7x	11.3x	11.2x	6.1x
AGCO Corporation	NYSE:AGCO	118.28	-14.72%	46.74%	8,856.8	10,835.6	14,176.7	13.8%	7.8%	0.8x	5.2x	8.0x	3.6x
Caterpillar Inc.	NYSE:CAT	273.00	13.96%	83.94%	139,269.1	170,166.1	64,771.0	22.9%	12.9%	2.6x	11.2x	17.0x	11.3x
The Toro Company	NYSE:TTC	83.10	-26.59%	12.08%	8,629.4	9,661.9	4,741.9	15.9%	7.9%	2.0x	12.1x	23.2x	18.1x
Lindsay Corporation	NYSE:LNN	117.68	-27.74%	9.98%	1,295.5	1,287.7	697.1	18.2%	10.2%	1.8x	9.7x	18.3x	3.7x
Valmont Industries, Inc.	NYSE:VMI	240.21	-27.36%	3.25%	5,047.5	6,056.2	4,337.7	13.2%	6.4%	1.4x	10.0x	18.7x	7.2x
CNH Industrial N.V.	NYSE:CNHI	12.10	-24.66%	13.91%	16,100.8	38,572.8	24,733.0	13.8%	9.4%	1.6x	10.6x	7.0x	5.8x
Cummins Inc.	NYSE:CMI	228.46	-5.71%	42.38%	32,360.7	39,424.7	32,194.0	13.4%	7.9%	1.2x	8.0x	12.8x	6.0x
Kubota Corporation	TSE:6326	14.76	7.10%	66.30%	17,373.9	30,122.2	20,322.5	12.7%	6.6%	1.5x	12.0x	13.5x	1.5x
Iseki & Co., Ltd.	TSE:6310	7.92	-10.88%	28.34%	179.1	626.6	1,191.7	5.6%	2.0%	0.5x	10.4x	7.7x	0.4x
EXEL Industries SA	ENXTPA:EXE	49.01	-15.71%	43.40%	332.4	519.9	1,144.3	6.6%	2.9%	0.5x	6.4x	10.7x	1.0x
Alamo Group Inc.	NYSE:ALG	172.86	22.08%	64.50%	2,076.1	2,328.4	1,607.9	14.3%	7.8%	1.4x	9.8x	16.6x	4.1x
DEUTZ Aktiengesellschaft	XTRA:DEZ	4.42	2.32%	37.50%	534.7	726.7	2,234.2	8.2%	4.7%	0.3x	3.7x	5.3x	1.1x
Tractor Supply Company	NasdaqGS:TSCO	203.05	-9.74%	31.03%	22,093.4	26,317.4	14,761.1	12.5%	7.5%	1.8x	11.0x	20.3x	12.2x
Mean			-9.26%	37.21%		35,952.8		13.9%	7.9%	1.4x	9.4x	13.6x	5.9x
Median			-11.43%	37.54%		10,248.7		13.6%	7.8%	1.5x	10.2x	13.2x	4.9x
Agricultural Animal Health & Diagnostics													
Zoetis Inc.	NYSE:ZTS	173.98	18.72%	70.34%	80,085.9	85,141.9	8,222.0	41.2%	26.9%	10.4x	24.6x	36.7x	121.6x
Phibro Animal Health Corporation	NasdaqGM:PAHC	12.77	-4.77%	21.38%	517.2	931.9	977.9	10.7%	3.3%	1.0x	8.1x	15.9x	3.0x
Elanco Animal Health Incorporated	NYSE:ELAN	11.24	-8.02%	49.34%	5,537.7	11,192.7	4,324.0	22.5%	-2.6%	2.6x	10.9x	NM	NM
IDEXX Laboratories, Inc.	NasdaqGS:IDXX	437.27	7.18%	48.54%	36,298.8	37,321.5	3,514.1	33.0%	22.5%	10.6x	31.3x	46.4x	56.9x
Neogen Corporation	NasdaqGS:NEOG	18.54	21.73%	59.17%	4,010.4	4,665.0	919.1	24.3%	-2.9%	5.1x	24.6x	NM	NM
Balchem Corporation	NasdaqGS:BCPC	124.04	1.58%	27.07%	3,999.0	4,357.0	940.6	21.3%	10.6%	4.6x	21.2x	40.4x	133.3x
ImmuCell Corporation	NasdaqCM:ICCC	5.34	-12.46%	24.88%	41.4	55.0	15.7	-24.3%	-38.4%	3.5x	NM	NM	1.5x
Dechra Pharmaceuticals PLC	LSE:DPH	46.23	46.54%	78.60%	5,264.6	5,781.1	875.7	17.9%	5.5%	6.6x	36.0x	105.3x	NM
Bayer CropScience Limited	BSE:506285	64.22	7.56%	92.57%	2,886.1	2,786.4	635.1	17.4%	15.0%	4.4x	24.5x	30.6x	9.2x
Mean			8.67%	52.43%		16,914.7		18.2%	4.4%	5.4x	22.7x	45.9x	54.3x
Median			7.18%	49.34%		4,665.0		21.3%	5.5%	4.6x	24.5x	38.5x	33.0x
Agricultural Animal Health Distributors													
Cencora, Inc.	NYSE:COR	179.97	8.61%	75.16%	36,147.7	41,346.1	254,425.2	1.3%	0.7%	0.2x	11.1x	22.0x	NM
Patterson Companies, Inc.	NasdaqGS:PDGO	29.64	5.74%	53.93%	2,841.0	3,406.8	6,525.0	5.7%	3.3%	0.5x	8.3x	13.5x	3.9x
Henry Schein, Inc.	NasdaqGS:HSIC	74.25	-7.04%	38.05%	9,695.9	12,886.9	12,598.0	8.4%	3.6%	1.0x	10.4x	21.8x	NM
Apiam Animal Health Limited	ASX:AHX	0.22	-49.16%	0.00%	39.5	100.7	127.6	6.4%	1.2%	0.8x	9.5x	26.6x	NM
EBOS Group Limited	NZSE:EBO	20.57	-26.09%	2.33%	3,945.0	4,550.3	8,144.7	4.2%	2.1%	0.6x	12.0x	23.7x	NM
Virbac SA	ENXTPA:VIRP	270.96	11.20%	41.41%	2,287.5	2,199.2	1,321.3	17.5%	9.9%	1.7x	9.0x	17.7x	4.0x
Vetoquinol SA	ENXTPA:VETO	82.56	-11.82%	7.62%	976.8	888.0	573.4	21.9%	11.2%	1.5x	6.9x	15.7x	3.4x
Mean			-9.79%	31.22%		9,339.7		9.4%	4.6%	0.9x	9.6x	20.1x	3.8x
Median			-7.04%	38.05%		3,406.8		6.4%	3.3%	0.8x	9.5x	21.8x	3.9x

Proven Record of Global Reach



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- Russell Tolander is a Managing Director for Capital Alliance working on mergers & acquisitions engagements across the food value chain.
- He is a former managing director of Institutional Sales and Research at Roth Capital Partners. He has over 20 years of institutional sales, research and investment management experience specific to the small capitalization public equity marketplace. Much of his experience focused on public micro-cap equities under \$100M in capitalization. His generalist experience spans a variety of industries including technology-enabled manufacturing, distribution & logistics; electronics & communications equipment and services; clean technology and alternative energy; business services; and consumer products, restaurant & retail, e-commerce, and internet-enabled businesses.
- Within the branded consumer products and the retail, restaurant and food & beverage industries, he has legacy experience which includes selling the Amerco/U-HAUL (UHAL) IPO and multi-year merchant investments in companies including BJ's Restaurant & Brewhouse (BJRI), Neogen Corporation (NEOG) and Cost-U-Less (acquired).
- More recently he has sales or direct investment exposure in health & wellness/millennial consumer companies including The Joint (JYNT), Lovesac (LOVE), and Castle Brands (acquired).
- Prior to capital markets, he was a research associate for R.J. Rudden Associates providing management consulting services to public utilities. Also, he was an engineer in training at Arizona Public Service Company where he had early exposure to the alternative energy field.
- He holds an MBA from the University of Iowa and a Bachelor of Science in Energy Engineering from the University of Arizona.
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