ORGANIC TRADE ASSOCIATION

October 8, 2025

Ms. Michelle Arsenault
National Organic Standards Board
USDA-AMS-NOP

Docket: AMS-NOP-25-0034

RE: Certification, Accreditation, and Compliance Subcommittee
Discussion Document: Consistency in Organic Seed Use

Dear Ms. Arsenault:

Thank you for this opportunity to provide feedback to the Certification, Accreditation, and Compliance Subcommittee on its Consistency in Organic Seed Use discussion document. The Organic Trade Association (OTA) is the membership-based business association for organic agriculture and products in North America. OTA is the leading voice for the organic trade in the United States. Our members include growers, shippers, processors, certifiers, farmers' associations, distributors, importers, exporters, brands, retailers, material input providers, and others. OTA's mission is to grow and protect organic with a unifying voice that serves and engages its diverse members from farm to marketplace.

At OTA, our strength comes from the knowledge, passion, and leadership of our members. Through OTA's Member Councils and Task Forces, experts from every corner of the organic sector come together to solve shared challenges, advance best practices, and amplify the voice of organic in policy, research, and the marketplace. One such member group is the OTA Seed Task Force, a cross-sector group of breeders, seed producers, certifiers, growers, and advocates working to strengthen the use of organic seed and planting stock across U.S. organic production. With organic seed requirements long established but unevenly implemented, the Task Force is developing collaborative, data-driven roadmaps to move the industry toward maximum use of organic seed and planting stock in a sensible and predictable way.

The Seed Task Force is pleased to see the CACS's work in this area. Since Fall of 2024, the Task Force has met regularly to explore fresh ideas for how the industry can overcome the barriers that have long held back organic seed production and use. OTA is proud to share the Task Force's extensive work to tackle this issue and the direction and outcomes it sees necessary to move beyond these stubborn barriers in a way that serves the entire industry.

Our intent is that the Task Force's work complements and informs CACS's own work on organic seed to help us reach our shared goals. We welcome the opportunity to work together and look forward to

collaborating on this important topic.

Respectfully submitted,

Scott Rice
Sr. Director, Regulatory Affairs
Organic Trade Association

cc: Tom Chapman
Co-CEO
Organic Trade Association

Attachment: OTA Seed Task Force Fall 2025 Comments

Organic Trade Association Seed Task Force Comments to the National Organic Standards Board Certification, Accreditation, and Compliance Subcommittee

RE: Consistency in Organic Seed Use Discussion Document

Summary
OFPA codified organic seed and planting stock as a cornerstone of organic production, but after more than two decades, its implementation has been a failure. Members of the OTA Seed Task Force (TF) are committed to honoring the intent of OFPA and strengthening organic seed and planting stock through collaborative, practical, and forward-thinking solutions. Recognizing the importance of organic seed and planting stock to the integrity of the USDA organic label, we seek to address challenges in availability, enforcement, and market development with a balanced approach that benefits growers, certifiers, handlers, and seed and planting stock producers alike. We aim for a strategy that can move towards maximum usage of organic seed and planting stock in organic production in a sensible and predictable manner.

While there are challenges inherent in organic seed production based on specific crop types, the biggest barrier for ALL organic seed and planting stock productions is lack of clear and consistent markets in the United States. Without reliable data on market sizes and seed demand, organic seed producers cannot forecast whether the costs and risks of organic seed production can be sufficiently mitigated by profitable seed sales. While sound data collection is the first step, we still need to determine a way to approach the unique differences found in the diversity of crops grown on organic farms.

In order to better understand what similarities and differences may exist in the organic seed supply for different crops, the TF examined the dynamics in four model crops: corn and soybean used for livestock feed and grown in the Midwest; whole head romaine used for heart production and grown in Monterey County, California; and whole head and baby leaf kale grown throughout the United States. One theme became strikingly evident when considering how to increase organic seed usage: any model we pursue needs to provide flexibility at the crop level, and perhaps even further classified by region, by end use, and by grower size. The case studies are detailed throughout this discussion document.

Background
The use of organic seed and planting stock has always been an organic practice standard (7 CFR §205.204) and based on commercial availability. If the variety needed is not available in the appropriate form, quality, and quantity, conventional seed or planting stock may be used. For the principle of commercial availability to work, growers and handlers must be willing to buy organic seed and planting stock (some are, some are not), and suppliers need to be willing to produce organic seed and planting stock (some are, some are not). This creates a weak market where demand is modest, at best, and thus so is supply.

Significant changes are needed to break this stalemate, but how can this be accomplished with crops as diverse as apples, alfalfa, wheat, and zucchini? The complexity of production and supply of seed and

planting stock is surely one of the reasons that the regulations have not been significantly updated since they first came into effect in 2002. Another is the lack of independent and verifiable data of current seed and planting stock usage patterns to indicate where progress needs to be made. The broad flexibility imbedded in the regulation made sense at the turn of the century, when the organic industry was small and the organic seed and planting stock industry smaller yet. However, relying on commercial availability was not meant to be a permanent exception to organic seed use. We are now at a tipping point: does organic seed and planting stock grow with the organic industry, or does it get left behind?

While the diversity of crops, grower needs, and seed suppliers creates an enormous level of complexity to organic seed and planting stock usage, the crux of the problem is straightforward: without a clear regulatory mandate and consistent enforcement, the market will not solve this issue on its own. Why is this the case? Because every stakeholder must navigate inherent economic conflicts of interest regarding organic seed and planting stock:

- Many growers and handlers are reluctant to use more expensive organic seed and planting stock when there are plentiful, high quality, and cheaper options available conventionally.
- Seed and propagation companies are reluctant to produce and offer varieties organically when the production risks are higher, as is the risk that a grower can justify the use of a non-organic alternative.
- Certifiers are reluctant to issue a non-compliance for organic seed and planting stock use when the current guidance is overly broad, and customers can choose to switch certifiers based on perceived levels of enforcement.

The OTA Task Force has been exploring these issues in-depth over the past year and presents the following discussion for the board's consideration.

Discussion

In today's current landscape, organic seed and planting stock supply and demand is often (although not always) philosophically driven. Growers making the choice to use organic seed and planting stock when available, and suppliers providing organic varieties, are predominantly doing so because they believe that organic food should start with organic seed and planting stock, and they have a market that justifies the added costs and risks. As multiple years of OSA's State of Organic Seed report has shown, growers choosing organic seed and planting stock generally tend to have less acreage (for vegetable growers, fewer than 50 acres) and sell in local or regional markets with more pricing flexibility, which allows them to absorb the higher seed cost. Seed suppliers serving this market have limited capacity to expand their organic offerings and achieve economies of scale because these growers do not represent the majority of the organic acreage.

The NOSB Fall 2025 discussion document has put forth a detailed list of barriers to organic seed production. Indeed, there are a number of challenges inherent in organic seed production, and the challenges vary depending on the crop. For one crop, the biggest challenge may be a particular crop pest, for another it could be weed management, for a third it could be large isolation distances needed,

for a fourth it could be the extensive hand labor requirement, and for a fifth the issue could be related to the processing of the seed post-harvest. Regardless of the particular production challenge (or challenges), the biggest barrier for ALL organic seed and planting stock productions is lack of clear and consistent markets in the United States. Without reliable data on market sizes and seed demand, seed producers cannot forecast whether or not the costs and risks of organic seed production can be sufficiently mitigated by profitable seed sales.

The OTA Seed TF feels strongly that quantifying the current conventional, untreated seed demand is the first step in solving the organic seed usage puzzle. We need independent and verifiable seed usage data as the foundation for any forward progress on overcoming barriers to organic seed production. Moreover, the current regulations can be used as the justification for collecting this data. According to §205.204 (a*) The producer must use organically grown seeds, annual seedlings, and planting stock*. While a number of exceptions are listed, the use of organic seeds, seedlings, and planting stock remains the standard.

From our initial analysis, it appears that some aspects of this data are already being collected by certifiers, although not necessarily in a consistent or easily aggregated way. This fall, we are working with certifiers to explore what data they are currently collecting that could be useful to start filling in the gaps in our understanding of the supply and the demand. One area of particular interest that we will explore is handlers, such as those working in the individual quick freezing (IQF) market. The unique variety requirements of this particular segment could highlight a segment of the market with high conventional seed usage. This approach is just one step in what we assume will be the many needed to build a more complete analysis of seed and planting stock demand. Certifiers do not currently keep track of each variety for which growers request an organic seed and planting stock use exemption, nor do they track how much acreage is planted to each non-organic variety. However, by understanding what is possible with the current data, we can begin developing recommendations for how to collect the missing data. For example, there is an OID field for acreage by crop that is currently optional. What would it take to switch this field to mandatory? We will also explore mechanisms by which the data could be aggregated and consolidated to create a robust picture of current seed usage needs and trends. Such data would help seed breeding and production companies to assess the opportunity for their investment in serving the organic sector.

While sound data collection is the first step, we still need to figure out a way to approach the unique differences found in the diversity of crops grown on organic farms. In order to better understand what similarities and differences may exist in the organic seed supply for different crops, the TF examined the dynamics in four model crops: corn and soybean used for livestock feed and grown in the Midwest, whole head romaine used for heart production and grown in Monterey County, California, and whole head and baby leaf kale grown throughout the United States. These crops were chosen based on the expertise of TF members as well as the different regions and scale of production that they represent (see appendix for each case study).

To summarize our findings, we learned that there are significant differences in the dynamics of the field crops we studied (corn and soybean) compared to the vegetables analyzed (romaine lettuce and kale).

One of the biggest differences is in the traits needed and end uses of the crops in these two categories. As one of the TF members said, "the final destination of most field corn and soybeans is the digestive track of livestock." The critical traits needed for these crops are limited to a few key components such as yield, moisture content, and harvest maturity. These traits are readily demonstrated in annual yield trials that are open and available to the public. Conventional variety X and organic variety Y may have different names, yet their performance could be identical, and they may even share one or both parent lines. While the equivalence of such organic and conventional varieties would not be obvious to the casual observer, to those immersed in the sector and growing the crop, it is fairly clear. Nonetheless, organic field corn seed suppliers report, on average, 20-35% carryover of unsold organic field corn seed each year. In this particular case, supply is not the issue, but demand—or willingness—is.

In contrast, the traits needed for successful whole head romaine or kale production are more nuanced, and thus the standards for a successful variety are much higher. Ultimately, the end use is human consumption, and as Dr. John Navazio – one of the luminaries in organic variety development – used to say, "People eat with their eyes." For example, organic romaine growers in Monterey County, California require the highest levels of disease resistance for a growing list of pressures: downy mildew (*Bremia lactucae*), aphids (*Nasanovia ribis-nigri*), Impatiens Necrotic Spot Virus (INSV), and Fusarium wilt (*Fusarium oxysporum).* Other important traits include bolting and tip-burn tolerance, good fill, tapered based and straight ribs for heart production, and a medium-green color. The varieties that check as many of these boxes as possible are the ones that are used (often fewer than a dozen), competition among breeding companies to deliver the best genetics is fierce, and there is minimal organic seed available for this market currently. These nuances become even greater if you start to explore regional differences. For example, the varieties used by romaine growers in Monterey County in spring through fall differ from the varieties used by romaine growers in the Imperial Valley and Yuma, AZ in the fall through spring. And these differ again from varieties used by the remaining 10% of organic romaine production that occurs outside of California and Arizona. The same is true for kale variety requirements, especially considering the wide diversity of end uses including whole head kale bunches and baby leaf kale leaves found in salad mixes.

Another significant difference among the crops studied is accurate acreage data. Corn and soybean, as large commodity crops, have fairly accurate public data available on the total organic acreage planted to these crops. This data is critical in assisting seed suppliers in analyzing the market potential of a particular crop segment. Accurate public data is much less available for specialty crops, of which vegetables are considered. The California Department of Food and Agriculture (CDFA) tracks acreage by county for certain crops, but not all. So, for example, CDFA reports 19,296 acres of organic lettuce in Monterey County in their 2023-2024 report, but this includes head, leaf, and spring/salad mixes. The acreage for romaine lettuce specifically is not reported. Kale acreage, considered a minor crop within the specialty crops, is not reported at all. Any acreage figures are best estimations provided by those active in these segments.

These differences were also supported by an analysis of Organic Seed Alliance's State of Organic Seed survey responses. Data was aggregated across 3 surveys for corn, soybean, lettuce, and kale,

representing 15 years of data and approximately 3,000 responses. The number of respondents reporting their seed usage patterns for corn and soybean was significantly higher than for lettuce and kale (see appendix for data analysis). For all crops, organic seed usage is positively correlated with small acreage. As acreage increases, organic seed use decreases. For corn and soybean growers, there are still some larger acreage growers reporting strong organic seed use. But as the 2022 State of Organic Seed report states "despite extensive data-collection efforts, we know that holes in our research and analysis exist." For the purpose of these particular case studies, one gap is survey respondents planting large acreage of these crops. Without their input, it is hard to draw conclusions on seed usage patterns for this segment of growers.

A test case using the Organic Integrity Database (OID) was also run to determine if the lettuce acreage data reported by CDFA mirrored data found in OID. One immediate challenge was that OID information is consolidated on the operation level, not on the crop level. All acreage reporting is by operation, and includes all crops produced, with no ability to distinguish acreage by crop. Similar to the CDFA report, crops are not divided into a standard nomenclature or 'sub-type.' For example, when searching OID for all variations on "lettuce" operations in California, the following terms returned certified operations: Lettuce, Romaine, Leafy, Salad, Head, Mixed Vegetables, and Other. No individual search word, including "lettuce," captured all operations in one search. This indicates that currently, OID is an insufficient resource for reliable data on seed and planting stock demand. It lacks the granularity needed to build forecasting, production, and planning models that are necessary for sound business planning of seed productions.

Finally, organic seed production capacity differs among these crops. Organic field corn seems the easiest to achieve full supply as all the components are in place: appropriate genetics, available certified acreage, equipment, processing facilities, and supply distribution channels. The missing piece for this crop is simply the demand. For organic soybeans, the capacity is not as developed as field corn and would likely take approximately 4-7 years to get all of the components in place to achieve full supply. It is important to note that producing field corn seed and soybean seed for planting requires essentially the same crop management and equipment as producing field corn and soybeans for processing.

Not surprisingly, seed production for the vegetables in the TF case study is more complicated. Both lettuce and kale production require letting the plant "go to seed," so the seed crop is in the ground for longer than a standard crop, which increases the challenges of weed, pest, and disease management. Nonetheless, there are seed production companies with sufficient organic lettuce production experience to produce high quality organic seed when the demand is present. Whole head kale, on the other hand, is a hybrid biennial crop with challenging seed production, even for a conventional crop, because of the plant's biology. There currently is not sufficient organic kale seed production capacity to meet demand if it were to increase significantly.

For this initial exercise, the TF chose to focus on just four crops. These crops are not representative of all field crops or all vegetable crops. We did not even attempt to explore the challenges in what is likely the most difficult category of all: vegetatively propagated crops such as nut and fruit trees. Nonetheless, one

theme became strikingly evident when considering how to increase organic seed usage: any model we pursue needs to provide flexibility at the crop level, and perhaps even further classified by region, by end use, and by grower size. The level of organic seed usage that is achievable in 3-5 years for organic field corn grown in the Midwest is different from the level of organic seed usage that is achievable for organic romaine grown for heart production in Monterey County, CA in 3-5 years. While this seems overwhelmingly complex when considering the broad diversity of organic crop productions across the United States, there are knowledgeable people working in all of these sectors who could help to identify feasible approaches to organic seed and planting stock, especially if they had access to independent and accurate usage data. The TF is exploring models for how to approach this complexity with the development of expert review panels to uncover the nuances within a particular crop and determine what is achievable from an organic seed and planting stock usage perspective.

Ultimately, it seems likely that changes to the current regulatory language at §205.204 may have to be made. However, it is too early to suggest what those changes should be. Any regulatory proposal must be based on sound data, with stakeholder support, and include clear and enforceable language. This requires a tiered approach and begins with seed demand data collection. We urge the NOSB and the NOP to consider how this can be achieved within our current regulatory framework and guidance.

Questions that will be guiding our work this fall/winter:

1. What data is currently being collected by certifiers that could inform our understanding of organic and conventional, untreated seed usage?
2. What critical data points are not collected currently?
3. What mechanisms are already available, or could be readily implemented, to ensure all necessary data is collected?
4. How can the data, once collected, be aggregated, anonymized, and made available to stakeholders?
5. What data and models are appropriate to quantify the true cost of the use of conventional untreated seed in organic production?

Conclusion

The Seed Task Force first convened over a decade ago and has participated in every seed-related issue that has come before the NOSB. We are not naïve to the challenge that is before us, nor are we deterred by the complexity. We invite all stakeholders, and especially the NOSB and the NOP, to work collaboratively with us to build a new roadmap that remains rooted in the original intent of OFPA but is also successful for generations to come. The future of organic is bright, and it will be brighter when it includes organic seed and planting stock.

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Appendix
Organic Seed Case Studies

Crop Focus: Lettuce
Segment Focus: Romaine (whole head production)
Region Focus: Monterey County, CA

California grows 76% of the total U.S. lettuce production, and 60% of California lettuce production takes place in Monterey County. According to the CA Department of Food and Agriculture (CDFA) 2023-2024 organic report, Monterey County grew 19,296 acres of organic lettuce, including head, leaf, spring/salad mixes. The report lists 129 producers, many of whom grow on contract for large (and often vertically integrated) shippers. Specific data on organic whole head romaine acreage is not available, but a rough estimate is 8,000 – 10,000 acres. Lettuce is grown in Monterey County from late April – mid-November. Production then moves south to the Imperial Valley and Yuma, AZ (mid-November – early April) and is generally managed by the same shippers. Together, these three regions account for approximately 90% of all lettuce consumed in the U.S.

Organic whole head romaine production is mainly focused on romaine hearts. While there is some overlap in the varieties used in Monterey County, the Imperial Valley, and Yuma, they are not fully aligned because of the differences in climate. In Monterey County, there are fewer than a dozen varieties widely grown organically, developed by 5-6 breeding companies. These varieties are almost entirely available as conventional, untreated seed, coated with an organic pellet. Average planting density is 50,000 seeds / acre, although this is variable depending on production system. An analysis done in 2023 by UC Cooperative Extension showed that the seed cost constituted approximately 3.3% of the total cost to produce an acre of head lettuce. While costs may be slightly different for organic producers, the cost of seed remains a fraction of the total production costs.

Despite this low input cost, genetics play a critical role in organic romaine producibility, and thus the standards for a successful variety are high. Disease resistances are the most important traits, as downy mildew (*Bremia lactucae*) is no longer the only needed resistance. Growers are seeing increased pressure from aphids (*Nasanovia ribis-nigri*), thrips (which can transmit the virus INSV), and Fusarium wilt (*Fusarium oxysporum).* Other important traits include bolting and tip-burn tolerance, good fill, tapered based and straight ribs for heart production, and a medium-green color.

Is there sufficient organic seed production capacity to supply 10,000 acres of organic romaine seed? Yes, organic seed production capacity is not an issue for this crop segment. A single lettuce plant produces, on average, 5 grams of seed (5000 seeds). It is possible to produce hundreds of millions of lettuce seeds on an acre. The cost of organic lettuce seed production, however, can be significantly higher than conventional lettuce seed production, mainly due to the labor needed for weed management.

Are there sufficiently "equivalent" organic varieties to adequately meet the needs of Monterey County organic romaine growers? No, the main varieties are primarily available in conventional untreated form only.

Could an "expert crop group" make recommendations for how to increase organic seed usage in this segment?

- Yes

What would an expert group look like for this segment?

- 3 Breeding companies
- 3 Growers/Shippers
- 1-2 certifiers
- Seed distribution company
- Moderator and/or data provider

What other crop segments could this expert group work on?

- All other lettuce segments for CA / AZ

What would be the incentive for this group to work together to increase organic seed usage?

- There would have to be some sort of regulatory mandate driving the discussions. Most of the breeding companies offering the leading varieties are not active in organic seed production, and the growers/shippers are not inclined to use organic seed. Achieving 100% organic seed usage is not a realistic goal, but some percentage of acreage could be feasible. There would need to be time for some of the breeding companies to develop their organic production capacity. Growers cannot accept a reduction in germination or vigor, so these standards would remain high, requiring high quality organic seed productions.

What does this current case study exclude?

- The remaining 10% of organic romaine production outside of CA/AZ
- The graph below from the 2021 USDA Organic Survey illustrates the dynamic in this crop segment, with the majority of national organic romaine production occurring on a small number of large farms.

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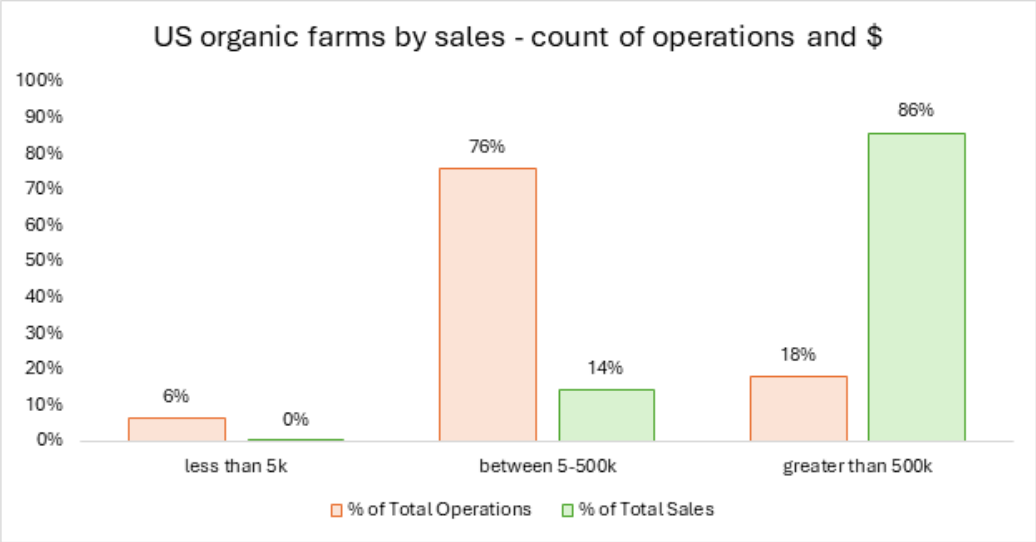


NASS 2021 Certified Organic Survey - Dec 15, 2022

Crop Focus: Kale
Segment Focus: Baby Leaf and Whole Head
Region Focus: United States

With the increase in health awareness, the kale market has been on the increase for over a decade now. The US kale market is broken down into two main sectors – baby leaf and whole head. Both are offered conventionally and organically produced in both sectors of the market.

- The baby leaf sector is a high volume, quick turnaround crop that supports the bag salad industry. Often used as an ingredient in combination with other leaf vegetables but can be a stand-alone product.
    - Varieties in this sector do not necessarily require high-end genetic traits as the plants are relatively young in their development when harvested. Open-pollinated (OP) genetics are preferred to keep costs down. Many large growers in this sector have organic seed crops grown for them using genetics with no intellectual property constraints. Very little information is available as to what amounts of seed being used is organic vs. conventionally produced.
- The whole head sector is a long-term crop that is multi-picked and supports fresh market, chopped salads and food service industry.
    - Varieties in this sector can require advanced genetics to combat the challenges of long cycle, multi-pick varieties. Most of the seeds in this sector are hybrid (F1).

There are 2 main types of kale found in the market today – lacinato (a.k.a. dinosaur kale, Tuscan type, nero di toscano, black cabbage) and green curly kale. Both kale types are produced organically in the marketplace and in both main market sectors – baby leaf and whole head. Seeds of both types of kale are currently being produced conventionally and organically.

Focused just on California – CDFA Organic report shows 3,369 organic producers, 1,093 handlers and 155 processors statewide. We assume a fair number of these producers would be growing kale as part of their vegetable production program. As kale is a minor crop, not a lot of detailed information on total acreage is available. We know that most of the organic produce on store shelves is grown by larger organic commercial operations.

Is there organically produced kale seed in the market of the two types focused on this report – yes. Is there enough organically produced seed to supply the entire market – no. There are challenges with kale seed production – both OP and F1. The challenges producing the seed organically are even greater. The economics of organic kale seed production are complicated. Most kales need to be produced over winter due to the need for the vernalization process. This adds time to plants in the ground which allows

more time for pests and disease to inhibit seed production. The OP kales, many times, can be produced in a shorter cycle and with much less technique. This makes them more attractive to high density, baby leaf plantings - simply due to the economics. The F1 lines require much more technical growing to provide a usable seed crop. Organic seed productions can be one-third of the yield we would expect in conventional productions of the same variety. As with most all organic seed productions, disease and pest control is very limited and generally causes reductions in germination rate as well as quantity of seeds produced.

Currently there are eight seed producers that are relevant in F1 kale seed breeding/production. Within that group there are only several that produce certified organic seeds. We estimate that within the F1 whole head sector, the main commercial organic growers use only a handful of varieties. There are three main F1 varieties in both the green curly and lacinato sectors. These varieties are offered both organic and conventionally produced. With limited organic seeds available from a limited number of suppliers, there are simply not enough seeds to supply both the baby leaf and the entire whole head sector of the two main types currently.

Why are there shortages in organically produced seed?

1. Current policy regarding usage of conventionally produced/untreated seeds as a substitute for the same variety organically produced/untreated.
    a. Seed suppliers take all economic risk
    b. Growers would rather not pay higher prices
2. Difficulty in organic production
    a. Reduced quality of seed – germ/vigor
    b. Reduced amount of seed
    c. Price of seed production

What can we do?

1. Can an 'expert group' help change policy which could pressure seed suppliers to increase organic seed production?
    a. Maybe a sunset period of current policy to help transition
2. Knowing that 100% organic seed supply is unrealistic, what % is achievable and with what timeframe?
    a. Currently, estimated less than 30% of the whole head sector of both lacinato and green curly kale is being supplied by organically produced seed.
    b. Seed producers would need to take more economic risk with larger productions
        i. That is a big ask
    c. No clear estimate on a timeframe for 100% supply

Crop Focus: Hybrid Field Corn and Soybean
Region Focus: Midwestern States

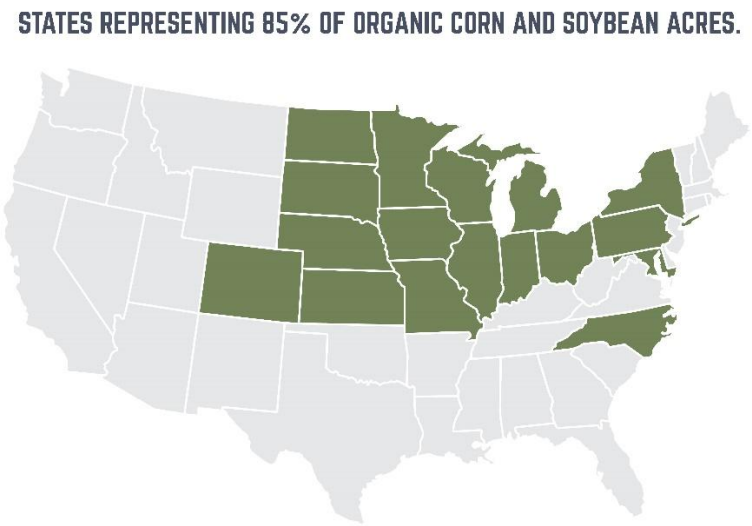
Framing questions:

1. Is it feasible to set up a stakeholder panel to examine organic corn and soybean seed availability, distribution, and competitiveness and make a recommendation on organic seed usage for these two species? Yes.
2. Are there enough differences between the supply chains of Organic corn and soybean seeds that it would require two separate panels? No.
3. What groups should be represented on such a panel?
    a. The panel must consist of a representative group of stakeholders that legitimize it in the eyes of all.
        i. Organic Farmers
        ii. Organic Seed companies
            1. What about Corteva/Pioneer (supplies a large amount of conventionally grown, untreated seed)
        iii. Organic Certifiers
        iv. Other experts for data & context? (e.g., OSA, OTA)
4. What should panel turnover/terms look like?
    a. Don't want to give the impression of giving power to a few seed companies/farmers/certifiers. Suggest staggered 3-year terms?
5. Notes on goals/process/deliverables:
    a. The process must be (and must be seen) as transparent & fair to all stakeholders.
    b. There must be real discussion and agreement between the stakeholders on the facts and the deliverables.
    c. Deliverable: Recommendation to the NOSB on achievable timelines for improving organic seed usage in organic corn & soybean production in the United States.
6. How often would the panel be expected to meet?
    a. More meetings in the first two years (perhaps 4/year) to establish process.
    b. After 3rd year, perhaps twice/year (panel decides)

Background information & context

Organic Hybrid Seed Corn (excluding sweetcorn & popcorn)

1. Organic Corn Acres
    a. In 2024 there were approximately 475,000 acres of Organic field corn in the U.S. (including silage, but not including sweet corn or popcorn)
        i. It would take approximately 216,000 Units (80,000 kernel unit) of seed corn to plant all these acres (assuming 36,000 seeds/acre)
        ii. It would take approximately 5,500 acres of Organic ground to grow this seed (source, three prominent producers of organic hybrid seed corn)
            1. Currently there is excess capacity to produce organic seed corn (acres, equipment, processing, distribution)
            2. Currently available Organic Hybrids are equivalent to conventionally grown hybrids (in many cases, they are identical)
    b. Approximately 82% of Organic Corn Acres are in these 16 States: IA, MN, WI, MI, NY, NE, IL, PA, OH, KS, IN, MO, SD, CO, ND, MD.
        i. States with significant acres not included: CA, TX, ID (12%)



2. Availability
    a. Primary/Secondary Suppliers of Organic Hybrid Seed Corn (how many states do they distribute in)
        i. Blue River Organic Seed (owned by Albert Lea Seed, A.L, MN)
        ii. Great Harvest Seed (owned by Beck's Hybrids, Atlanta, IN)
        iii. Prairie Hybrids (Deer Grove, IL)
        iv. Seedway (Hall, NY)
        v. Seed Consultants (Washington C.H., OH)
        vi. Foundation Direct (Brice Prairie, WI)
        vii. Welter Seed & Honey (Onslow, IA)
        viii. Others: Champion, Miller, Byron, Elk Mound

Company	Headquartered	Distribution	Number of Organic Hybrids	Maturity Range
Blue River Org.	**Minnesota**	**Nationwide**	**32**	**79-114 Day**
Great Harvest	**Indiana**	**Nationwide**	**13**	**96-116 Day**
Prairie	**Illinois**	**Nationwide**	**20**	**90 – 115 Day**
Seedway	**New York**	**Eastern Seaboard**	**20**	**82 - 116**
Seed Consultants	**Ohio**	**Corn Belt**	**6**	**82-106**
Foundation Direct	**Wisconsin**	**WI, IA, MI, IL, ID, WA, NY, MN, OH**	**22**	**81-110 Day**

   b. What percentage of your Organic Hybrid Seed corn inventory was unsold at the end of planting season, 2025? 25-40% carryover Organic hybrid seed corn. (Source: Five Organic seed companies)
   c. In your opinion, is there capacity (acres/growers/processing) to grow enough Certified Organic Seed corn for 500,000 acres? Yes, especially with 3-4 years lead time. (Source: Five Organic seed companies)
3. Issues and Exceptions to be considered for Corn:
   a. Sweetcorn, Popcorn, and specialty grain corn (e.g., white corn & blue corn)
   b. What to do about States with significant corn acreage that are not in the 82% map (TX, CA, ID)
   c. Distribution to areas of the country where corn is not usually grown (NM, AZ, FL)
   d. Quality (sometimes named by farmers)

Organic Soybean Seed

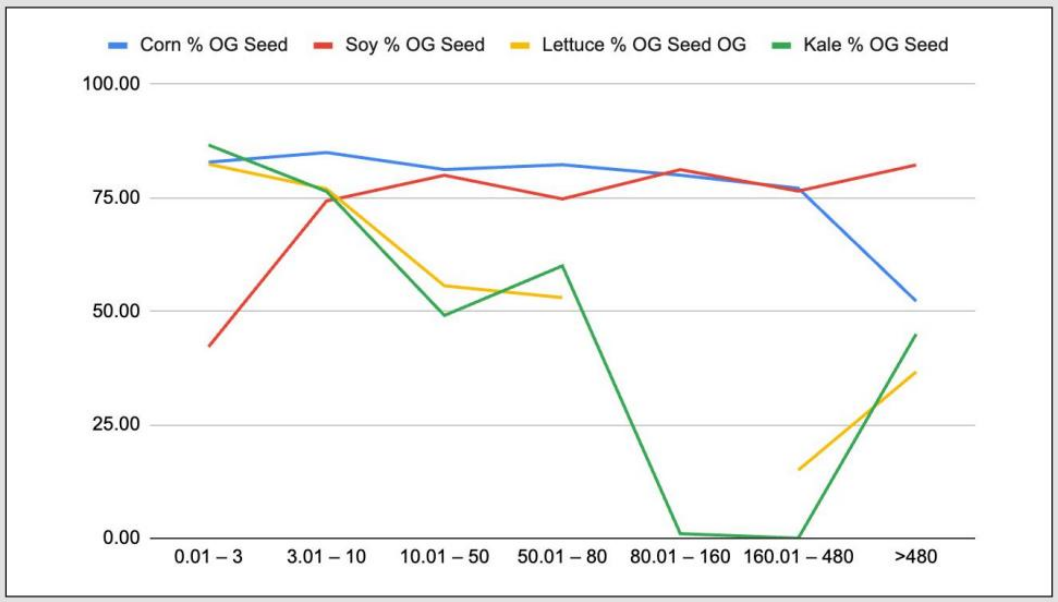
1. Organic Soybean Acres
   a. In 2024 there were 314,000 acres of Organic soybeans in the U.S.
      i. It would take approximately 405,000 Units (140,000 seeds) of soybeans to plant all these acres (assuming 180,000 seeds/acre)
      ii. It would take 9000 acres of Organic ground to grow this seed.
   b. 88% of Organic Corn Acres are in these 16 States: IA, IL, MI, MN, OH, MO, NY, WI, NE, PA, NC, SD, IN, KS, ND, MD
      i. States with significant acres not included: TX, GA, AR (7%)
   c. Map
2. Availability

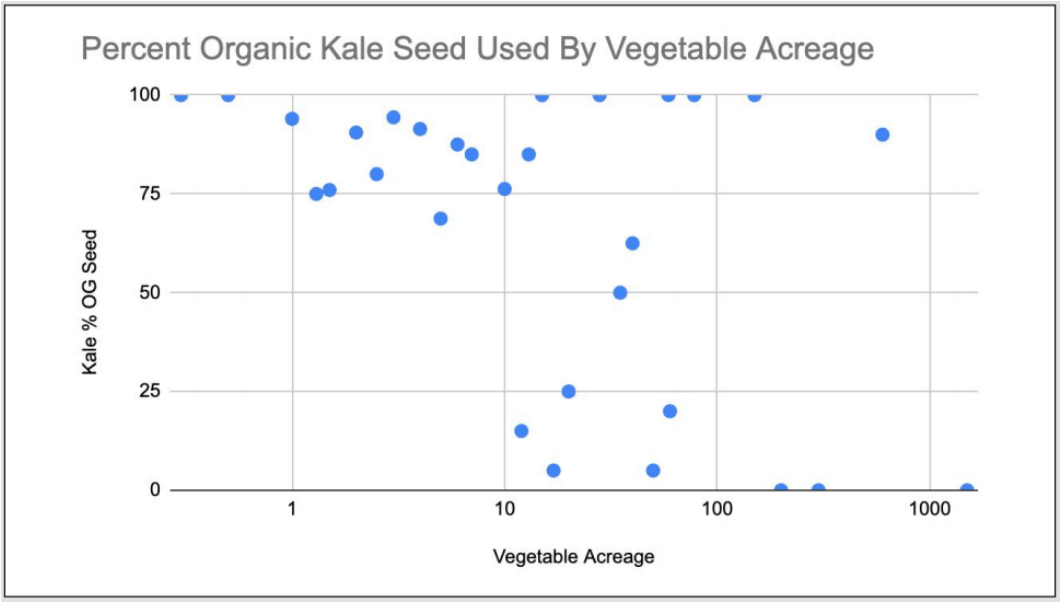
a. Primary/Secondary Suppliers of Organic Soybean Seed (how many states do they distribute in)
    i. Blue River Organic Seed (owned by Albert Lea Seed, A.L, MN)
    ii. Great Harvest Seed (owned by Beck's Hybrids, Atlanta, IN)
    iii. Seedway (Hall, NY)
    iv. Lakeview Organic (Middletown, MO)
b. What percentage of your Organic Soybean Seed inventory was unsold at the end of planting season, 2025? No carryover. 15-25% unsold at season end (dumped, not carried over). (Source: 3 companies)
c. In your opinion, is there capacity (acres/growers/processing) to grow enough Certified Organic Soybean Seed? Yes, but maybe a longer lead time. 2-5 years. Distribution might be more of a problem than production. More companies would sell organic soybean seed if they were more certain of selling their inventory.

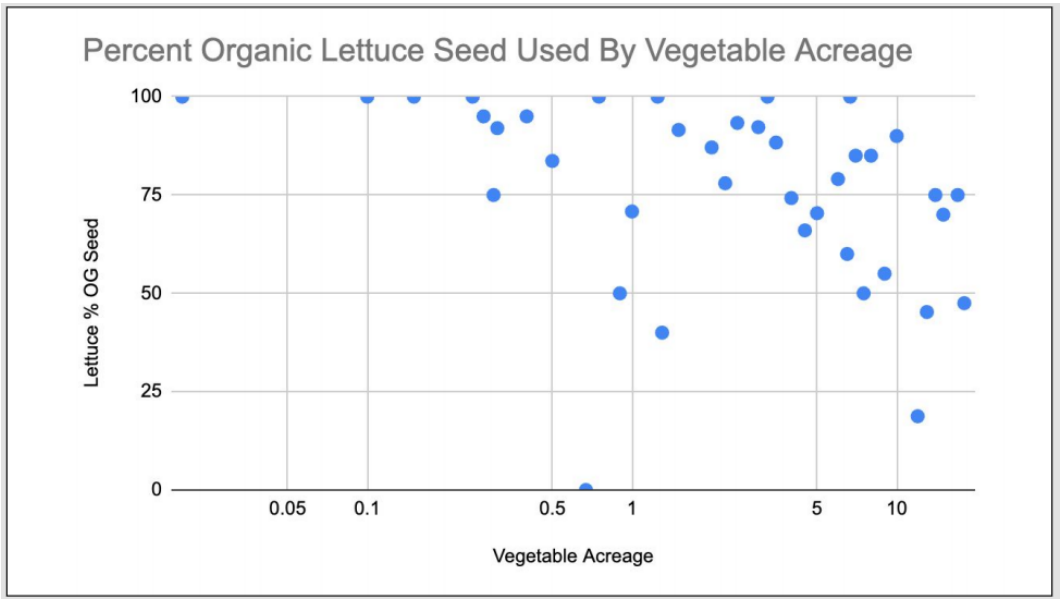
Company	Headquartered	Distribution	Number of Org. Soy. Varieties	Maturity Range
Blue River Org.	**Minnesota**	**Nationwide**	**25**	**0.8 – 4.6**
Great Harvest	**Indiana**	**Nationwide**	**6-8**	**2.4 – 4.2**
Seedway	**New York**	**Northeast**	**6-8**	**1.0 – 5.0**
Lakeview Organics	**MO**	**MO, PA, NY, OH, IN, KY, WI, MI, MO, AR, KS, NE, IA, OK**	**16**	**1.7 – 4.7**

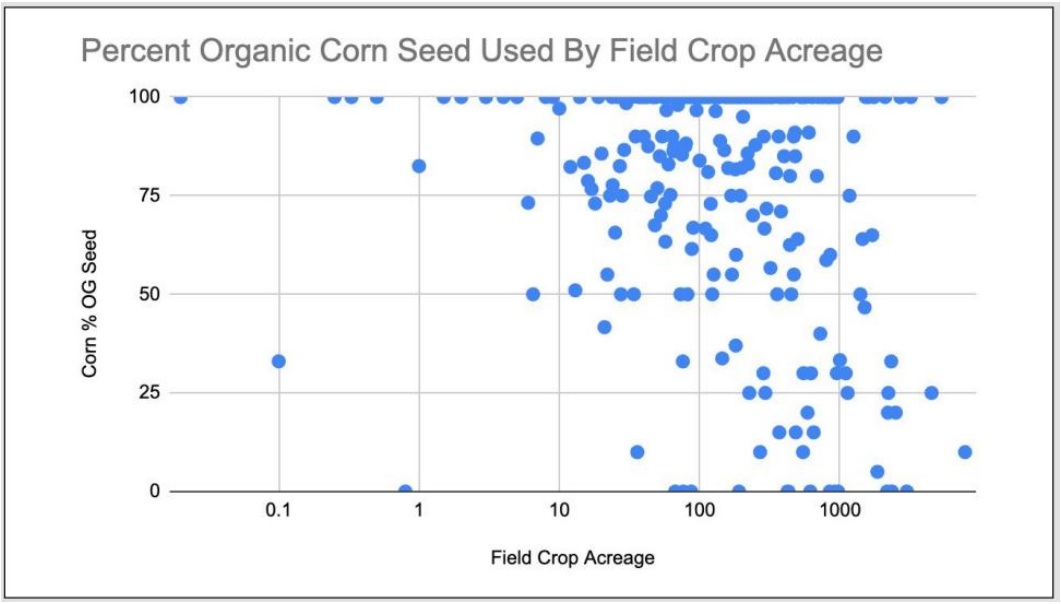
3. Issues and Exceptions to be considered for Soybeans.
    a. Specialty soybeans (unique food-type varieties, high-oleic, etc….)
    b. What to do about States with significant soybean acreage that are not in the 88% map (TX, GA, AR)
    c. Distribution to areas of the country where soybeans are not usually grown (NM, AZ, FL)

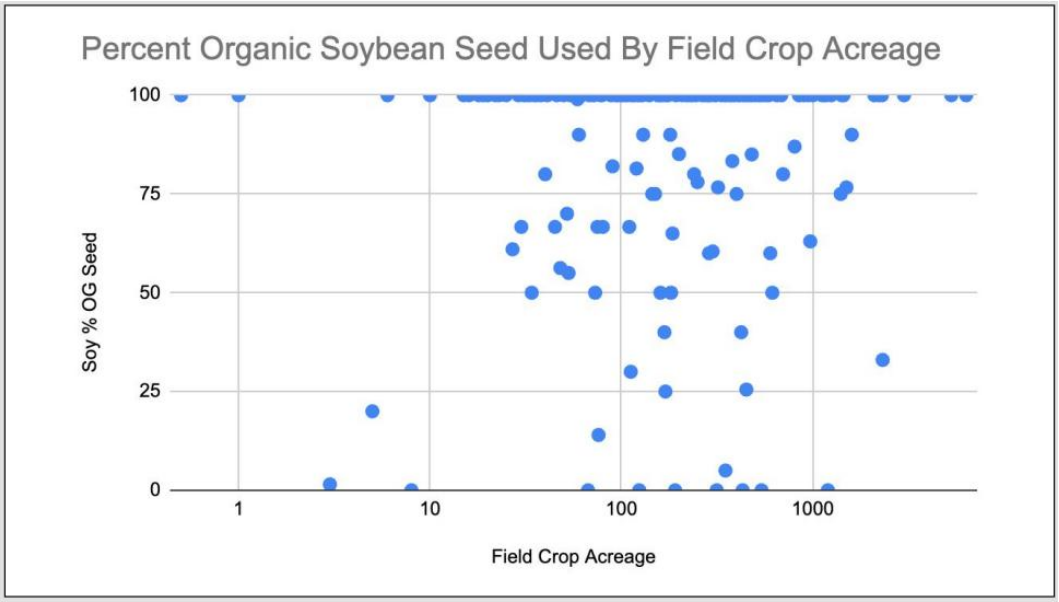
Organic Seed Alliance
State of Organic Seed
Survey Data






Percent Organic Lettuce Seed Used By Vegetable Acreage
Lettuce % OG Seed
100
75
50
25
0
0.05
0.1
0.5
1
5
10
Vegetable Acreage


Percent Organic Corn Seed Used By Field Crop Acreage
Corn % OG Seed
100
75
50
25
0
0.1
1
10
100
1000
Field Crop Acreage



Lettuce				*Moderate or significant reasons for not using OG seed?*					
	Percent OG Seed	**n**	**Increased?**	**Seed treatment**	**Buyer / processor**	**Save seed**	**Price**	**Variety missing**	**Traits missing**
Under 80 Acres	77.58	244	57.6%	11.3%	18.1%	23.0%	28.9%	79.6%	43.4%
Over 80 Acres	28.00	5	100.0%	80.0%	50.0%	0.0%	50.0%	100.0%	50.0%
Grand Total	76.57	250	58.6%	12.8%	18.5%	22.7%	29.2%	79.9%	43.5%
Kale									
	Percent OG Seed	**n**	**Increased?**	**Seed treatment**	**Buyer / processor**	**Save seed**	**Price**	**Variety missing**	**Traits missing**
Under 80 Acres	79.2	112	59.8%	18.1%	26.3%	28.8%	33.3%	80.0%	45.3%
Over 80 Acres	18.2	5	25.0%	25.0%	75.0%	25.0%	50.0%	100.0%	100.0%
Grand Total	76.5	117	58.1%	18.4%	28.8%	28.6%	34.2%	81.0%	48.1%
Corn									
	Percent OG Seed	**n**	**Increased?**	**Seed treatment**	**Buyer / processor**	**Save seed**	**Price**	**Variety missing**	**Traits missing**
Under 480 Acres	82	808	54.8%	7.1%	28.3%	37.1%	23.8%	65.9%	42.5%
Over 480 Acres	53	100	50.0%	7.2%	59.7%	53.6%	27.5%	85.9%	62.3%
Grand Total	78	908	54.5%	7.1%	32.5%	39.6%	24.3%	68.9%	45.4%
Soybeans									
	Percent OG Seed	**n**	**Increased?**	**Seed treatment**	**Buyer / processor**	**Save seed**	**Price**	**Variety missing**	**Traits missing**
Under 480 Acres	81.8	373	46.5%	6.4%	30.1%	50.2%	24.2%	62.6%	46.9%
Over 480 Acres	83.6	72	58.3%	6.7%	66.0%	55.3%	21.3%	83.7%	53.2%
Grand Total	82.1	445	48.1%	6.4%	36.2%	51.2%	23.6%	66.5%	48.1%