

ONMARK CERTIFICATION SUGGESTIONS



Question 1: What are the key things that you as a reviewer are focusing on when you work with an organic producer today?

Answer: Complete records. Anyone applying for NOP certification is required to have a concise 3-year field history for any property requested for initial certification. This includes all inputs applied to verify the field has a 36-month transition period to an organic status since the last prohibited input date (often spraying, treated seed or fertilizers). This date is established for compliance and also to know when an organic eligible crop could be harvested (3 years + 1 day) which is often a rule that's misunderstood. In addition to complete field history a completion of our Organic System Plan (OSP) is required to explain how you manage your farm, records and will be able to prevent contamination or commingling if a split production operation.

Question 2: What can an organic producer do to be more prepared for your review and inspection?

Answer: Gather all records pertinent to each field's activity. We often ask to "tell me the story about the crop in a field. Records tell the tale. There is no such thing as too much information. Explaining a situation with a cover letter of an application to help explain unique activity is helpful. More than anything, reach out to OnMark with any questions you might have. We are happy to explain the OSP to gain an understanding of the NOP requirements.

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FSB LOCATIONS

301 W. Falcon, Flanagan 403 State, Benson 2401 E. Washington, Bloomington 111 N. Fayette, El Paso 500 S. Persimmon, Le Roy

208 E. Gridley, Gridley

ONMARK CERTIFICATION SUGGESTIONS (CONT)

Question 3: What are the things you want from the producers that work with you?

Answer: OnMark is an NOP Accredited Certification Agency for the Organic Program. Our role is to evaluate (audit) an operator is complying with the NOP rules within the unique framework of agriculture. We understand the commonsense approach with sound and sensible inspection is important. We appreciate operators maintain their on-farm records in an organized fashion which results in an efficient inspection on site. We have end of year records submitted annually with renewal applications with a byproduct to help farmers understand overall production analysis of their farm. Anyone requesting NOP certification is a voluntary applicant and we appreciate that understanding that we are a third-party verifier of a process they have agreed to follow.

Question 4: What are some of the most common problems that you encounter with organic producers, and how can producers avoid these same problems.

Answer: Lack of documentation to verify compliance is probably the most common issue. Anything that comes into or applied to a field needs documentation (labels, invoices, organic approved input, etc.). It's a checks and balance system really that can be organized with a little attention for most operations. Field records documenting clean-outs, commodity movement and traceability are issues that operators sometimes have lack of information to verify the process. And finally, OnMark encourages all operators to be proactive in approval of any input is an approved input prior to use. If not, an operator risks application of a product that's prohibited resulting in a field being required to transition for 3 more years to organic. The last thing anyone wants. Question 5: As an organic certifier, what recommendations would you have for a conventional producer wanting to start transitioning to organic certification?

Answer: Contact OnMark and discuss the process. We are happy to share our OSP documentation at any time with an operator looking to understand the process (even if 2-3 years from organic eligibility). We appreciate the anxiety involved with hoping a field is organic eligible for a valuable cash crop. We discuss the process and transition year inputs or crop ideas with anyone!

Interested in NOP rules and matters? Take a moment to gain insight at the free courses offered by NOP at the Organic Integrity Learning Center: www.ams.usda.gov/services/organic-certification/training

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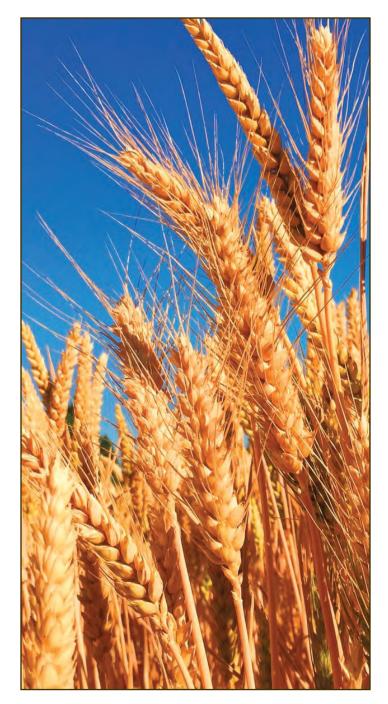
FIGHTING THE PRICE-COST SQUEEZE IN 2024

Many growers look to 2024 with a sense of cautious skepticism, as organic grain prices have eroded, and input costs have not come down much. To stay profitable in 2024, growers need to either cut costs, improve revenue by either increasing yields or improved marketing or some combination of these. This article will focus mainly on increasing yields.

One organic grower decided he either needed to up his game to make organic farming profitable or get out. He asked around for the name of a top consultant wise in the ways of organic farming. With the help of that consultant, he assembled a team of advisors in equipment, seed, and fertilizer. Working together they made suggestions of ways to improve his operation in multiple areas. Some were big changes to make in his mindset about organic farming, others small tweaks to gain a few bushels here and there. He attended a summer crop tour of organic growers to learn what other successful growers were doing, and see with his own eyes that good yielding, high quality organic crops are very achievable! Convinced he was on the right track, he resolved to listen to his advisors and follow their recommendations, beginning with cover crop selection and residue management this fall. The rest of the story is yet to be told, but any organic grower can up his game by implementing some of these successful techniques that we observe in organic production.

The adage that "you have to spend money to make money" often applies. A case in point is spending money on equipment to gain better weed control. Upgrading to better tine weeders, flamers and guidance on tractors and cultivators, possibly including high tech camera guidance can result in far superior weed control. One farmer reluctantly spent money for a camera guided cultivator but discovered that his weed control improved greatly even with fewer weed control passes. He decided after the season that it was money well spent. Maybe more money needs to be spent to increase soluble calcium levels in the soil to decrease weed pressure. Having enough calcium available to keep soils flocculated improves soil porosity which in turn creates an environment less conducive to germinating weeds and more conducive to the activity of beneficial soil microbes.

Sometimes better weed control is achieved just by better choices in cover crops and the timing of planting and terminating them. As a rule, avoid grass cover crops ahead of a grass cash crop. Use legume cover crops instead if possible. Grass cover crops are well suited ahead of legume cash crops. A common problem is letting cover crops get too mature before terminating in front of corn or other nitrogen loving crops. The extra vegetation not only interferes with achieving a good seedbed, but more importantly ties up nitrogen, a precious organic commodity, early in the season.



The result is a reduced corn yield. Cover crops with a carbon to nitrogen ratio over 30:1 take energy out of the soil until decomposed. Cover crops with a carbon to nitrogen ratio of 15:1 or less put energy into the soil. Generally, this means terminating cover crops at 8-9 inches in height ahead of corn. Other crops, such as soybeans, are less sensitive to early season competition and can tolerate larger cover crops.

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FIGHTING THE PRICE-COST SQUEEZE IN 2024 (CONT)

In a tough cost-price squeeze environment, it might mean that growers need to stick to tried and tested practices that have higher odds of producing good yields. No-till organic crop production certainly has a lot of positive aspects, but it is not the least risky method of crop production. Growers can suffer major production losses if things are not managed correctly, or the weather doesn't cooperate. A common mistake is the failure to "pull the plug" on the decision to no-till even though they are not set up for success. Often, the lack of success is due to poor cover crop growth that is not adequate to suppress weeds. Planting into cool, wet soils can be a hindrance when the weather doesn't cooperate. Be prepared for plan B, C or D if the weather doesn't cooperate to allow successful no-till.

There are three other areas where spending money can increase the bottom line. One is using biological products to accelerate crop residue and manure decomposition and speed up nutrient cycling which increases nutrient use efficiency. 2) Starter fertilizer allows crops to get started quicker and get a jump on the weeds. Starter can also bridge the gap between early crop needs and slow release of nutrients in cool soils. There are many new fertilizer options that allow growers to address specific fertility needs and concerns. 3) Late season foliar applications that help maintain plant health and improve grain fill can pay big dividends. Half of the crop yield is determined in the last 30 days before maturity. Don't give up on crops too early. Maybe you need to find different hybrids or varieties that are better suited to your soils and farming practices. Yield is the interaction of genetics and environment. Make sure your seedsman understands organics and how that differs from conventional production. Pay attention to traits like disease and insect resistance, and what the fertility requirements and timing of uptake are. Do your best to match genetics to your environment, and there's no substitute for splitting fields with several selections to evaluate which are the best fit for your fields.

Successful organic production is very management intensive. You must be very proactive and stay ahead of problems, especially in a low margin economic environment. Maintaining good yields is crucial to staying profitable, and good yields only come after careful attention to the details of organic farming.

• Make a crop and cover crop plan that has a high chance of success.

• Have a plan to control weeds and backup plan when the weather doesn't cooperate.

• Have a plan to meet crop health and nutrient needs at every growth stage.

• Enlist the help of an advisor, mentor, or successful farmer to fill in your experience gaps.

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TOXINS THAT GROWERS MAY HAVE TO ADDRESS IN CORN AND SMALL GRAINS

With the erratic weather (hot, dry, and excessive moisture) there are areas where mycotoxins have flourished this spring and summer. Growers that are growing organic and conventional small grains and corn in the upper Midwest and midwestern plains should test their small grains and corn for toxins before they market or feed these inputs. These toxins, particularly Aflatoxins, DON (vomitoxins), Fumonison, T-1 and T-2 plus Zearalenone may cause problems for livestock (cattle, hogs, and poultry) and humans.

These mycotoxins are nothing new. In 1988, I was a feed consultant for a feed company in the Midwest. The corn companies developed a Texas sterile hybrid for corn. Because of the high levels of mycotoxins, the growers that used these varieties had extensive problems with cattle and hogs. In southeastern Wisconsin, a grower that had a variety of high toxins in his corn, lost up to 25% of his hogs.

For dairy farmers, I have witnessed the loss of dairy cows. At calving, when the cows were emitting most of the toxins, blotted and died. About 5 years ago, one of our consultants asked me to go with him east of Omaha. This dairyman had been losing about 30% of the heifers that were calving. When the corn was tested, toxins were present.

Where corn is grown to feed cattle, hogs, chickens, and turkeys, high mycotoxins in corn are concerning, particularly poults and young livestock.

In 2016, I began working with JABB of the Carolinas. Their product, SPE-120, uses Beauveria bassiana as the active ingredient. Since then, growers that have used this product have had significant reduction in mycotoxins present in their corn and small grains, resulting in healthier feed for animals and increased marketability. Additionally, crops treated with SPE-120 have increased resistance to pathogens and insects, reducing other inputs.

In the late spring, a gentleman called me because his organic wheat that he had was not treated with SPE-120 to protect the crops from toxins, pathogens, and insects. When selling the wheat, he was told it was very high in Mycotoxins. So, the other option is to ship his wheat to the ethanol plant, again it was rejected because of high levels of mycotoxins.

THIS SHOULD BE A CAUTION TO ALL GROWERS.

Please check your small grains for mycotoxins!! There are several facilities that you can use to check for mycotoxins. Because toxins are so bad in the panhandle of Texas, each load of corn is tested before it can be delivered.



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	Mycotoxin Levels in Shell Corn 2016-2020				
3.4	5				
3.2					
3					
2.8					
2.6					
2.4					
2.2					
2					
1.8					
1.6					
1.4					
1.2					
1 -					
0.8					
0.6					
0.4					
0.2					
0					
	Aflatoxin (ppb)	DON (Vomitoxin) (ppm) ■ Treated Non-treated	Fumonisin (ppm)		

NOTE: you may notice there is no dark lines Treated with for the Aflatoxin and DON(Vomitoxin) on the treated shell corn 2016-2020. This was because the amount was near zero. The Fumonisin showed a reduction of mycotoxins of less than 20% compared to the tests from Midwest Labs, Omaha, NE.

Beauveria bassiana is a unique biological. When used as a seed treatment, either planter box treated or in-furrow, it becomes a symbiotic endophyte in the plant. The Beauveria grows with the plant and helps the plant acquire more nutrients, defend against pathogens, nematodes, and insects, and phytohormonal production to reduce environmental stress on the plants.

When I first began using SPE-120 (active ingredient beauveria bassiana), I did a field trial in Rock County, Wisconsin. Across the 60 acres, 62 rows were treated, and 62 rows were untreated. The rows treated not treated appeared to have a better yield per acre and the SPE-120 yielded a slightly less of a yield. Also, the rows treated with SPE-120 had non-detectable levels of mycotoxins, while the untreated had very high levels of mycotoxins. Since then, it the quality of these crops. There have been numerous trials confirming what we first witnessed across all grains and vegetables.

I found that the that the combination of Bb (SPE-120), Trichoderma (T-22) and eventually mycorrhizal fungi (Agri-Energy MST) are very compatible and provide many benefits for the crops. Research has proven fungal endophytes, such as Beauveria bassiana in SPE-120, can protect the plants against pathogens thru various stress strategies such as competition with pathogens colonization of nutrients, the production of antibodies and reduce the inoculant to host plants (Kumar et al, 2019)

In my experience, growers that include SPE-120 in their programs have reduced toxins, reduced pathogens, and insects, and increased yields.

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MAD MARKETS

Amidst the ever-evolving landscape of global organic trade partners, the U.S. antidumping and countervailing duties on Indian organic soybeans, and sustainability-centered consumer preferences - post-harvest 2023 organic commodity prices have embarked on a familiar journey. We are currently witnessing a shifting demand-supply equilibrium amongst organic corn and soybeans, following a nearly two-year soybean high. This dance of market forces follows the annual short-long cycles, that growers are all too familiar with.

The headline for the last production year, is that the U.S. organic grain market saw a massive uptick in organic soybeans acres, estimated 25% from the year prior. This has led to a reduction in imports, despite relatively strong import opportunities with South America and the emerging African organic soybean market. Overall, production within the U.S. has remained relatively stable.

Wheat:

The wheat market typically flips year over year. Last year we had an abundance of feed wheat, and this year we have higher than anticipated stocks of high-quality milling wheat.

Prices for milling quality organic wheat prices remain relatively stable. Mad Markets traders have been seeing the following ranges within the market:

Organic Durum: Mid \$20's - 24 -25/bu Organic Hard Red Winter Wheat: Min 12 PRO \$19/bu Organic Hard Red Spring Wheat: Min 13+ \$20+

Soybeans:

Currently, we are not seeing lots of trade activity within U.S. organic soybean markets, as the market has efficiently over-corrected from the highs, we were seeing over the last two years. This is driven by the over-supply we now see within the market, with a record setting 12M bushels of anticipated annual production in 2023.

Prices have bottomed out from the highs witnessed in 2021/2022 to under \$20/bushel. This is driven by a sizable increase in the U.S. crop, with less of a reliance or need for imports.

Corn:

The lows have already been built into the market heading into fall harvest. The November market is likely the lowest for the year. Buyers are expected to be patient and will likely hold their positions. As such, we expect growers to only sell what they need for their cash positions, and to store their remaining inventories after the first of the year.

The current bid-ask spread is immensely wide, at \$300 - \$350/T, which FOBS back to the Midwest at \$8.75/bu delivered. We currently have been seeing paid prices for growers at \$8 - \$10/bushel.

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WATER USE FROM EARLY IRRIGATION TIMES TO CURRENT USES, AS A PRODUCER

In my four decades of being an independent agronomist in the region, we have seen a lot of farm changes, most were well suited to improve the quality of production at reasonable ROI for producers. Producers can either get water naturally or you go looking to supplement what little nature provides.

150 miles from my location in Eastern Nebraska is where the top 3 world leaders in irrigation development are headquartered. These corporate giants did not exist 75 years ago. Irrigation uses water as a supplement for producers who are short on natural rainwater.

In Nebraska, the tens of thousands of farm operations many in the western 2/3 of the state are center pivot locations. The annual rainfall is less than needed for corn and soybeans, our main grain crops. The producer resides over the largest acquirer, the Ogallala, water for producer to use. The Ogallala aquafer stretches from the Dakotas to Texas and eastern Nebraska to 250 miles to the west.

Therein lies the rub, the shape of the Ogallala reservoir below ground is a big soup bowl with shallow edges and deeper level under Nebraska. The edges of the bowl are rapidly lowering the available water pool to two or three times deeper from when the wells were established. We often speak to southern producers who say change needs to happen, time to move to the water supply. The northern USA or eastern USA are target areas.

What happens when you go from dry land to a pivot? Your yields as well as the cost of inputs go up. You become a money manager for the cost of production per bushel. ROI is critical to survival. (*cont. pg.* 8)

Rain means the pivots turn less; cost of bushels is less. But input costs are still high. Dry drought years like the past 5, typically means turning the pivot as many as 5-6-7 times more. That is a huge bite on your return on investment (ROI) per bushel.

The production of crops is the heart of Nebraska's economy. Timely use of Water is essential to all plant growth and yields. Nebraska's economy relies on a plentiful supply of water to produce crops – in both rainfed and irrigated environments.

What is driving use and crop selection? A review of reasons to use irrigation is shared by a food grade corn cleaning operation in NE. Jim shared: Aflatoxin & Fumonisin are the biggest concerns in dryland corn production, those dry land grains are rejected some years even for feed use. In lab tests from 7 out of 10 years, toxins were found in testing of dryland corn production, this percentage goes up in states without consistent irrigation. Quality and consistency of yields are why NE's arid climate combined with time tested irrigation are why the food industry standard for organic corn is NE production. If you eat corn chips, most likely the corn was raised in the region where rain or irrigation was plentiful.

Reality is Nebraska raises a lot of grain for food (best ROI) and livestock (biggest long-term use and risk) and ethanol consumption. (cars use a lot of mix ethanol and gas fuels)

Where is this all leading for water use? This perspective by a well drilling industry founder of well drilling by a regional employee shared a few comments: what has happened in these dry years? More producers are requesting water for added acres for previously dry land crops or low gallon performing wells. That means there are more acres to water, and more sharing of the same pool of water. The rub is the water depth in the pool is not staying the same level even here. Preventing further water quality degradation or improving water quality requires careful irrigation management along with proper fertilizer management.

The NE Natural Resource Districts (NRD) are doing more to stretch the supply and quality of the water available to use on farms and towns. Sharing the water to cover more acres and use it efficiently is the goal. Add the goal to prevent contamination from farm chemicals going into the water table as a serious life quality focus.

Fact: The quality of town and private wells on farms is being derogated. When a well drilling employee says he does not drink the city water there are serious reasons and concerns as to why he makes that choice. Few cities and towns are free of farm chemical contamination is a reality. Health records confirm a link between water and diseases across the nation. What actions on water use and quality lies ahead is up to producers to decide.

Let's be wise, consider why and how to irrigate, use the most efficient means. Subsoil irrigation is a tool for high value crops. Sub soil irrigation is a tool where the volume of use in low available water pools of water is a constraint.

Technological ability to monitor, activate and reduce blanket application has entered the producer's life and usually helps make the ROI more positive. To farm with irrigation is a major question in this drought cycle for producers across the farm belt.

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