

# Executive Summary

Organic Seed Alliance's (OSA) *State of Organic Seed, 2016* report is part of an ongoing project to monitor the status of organic seed systems in the US. Our 2011 findings provided the first comprehensive needs assessment for developing these systems. We're committed to measuring progress every five years, and this report serves as our first update.

The USDA's National Organic Program (NOP) requires the use of organic seed when commercially available. However, the organic seed sector was almost nonexistent when the program began and is still working to meet demand. Meanwhile, the organic food industry continues to grow, with sales topping \$39 billion in 2015. This makes our work to develop organic seed systems that respond to the needs of organic farmers and the diverse markets they serve that much more urgent.

We're making progress according to our newest findings. We arrived at this conclusion through a number of surveys and other forms of data collection, including a full analysis of research investments over the last five years. We surveyed organic farmers, organic seed companies, and organic certifiers to better understand barriers to expanding organic seed systems from a seed sourcing, seed production, and regulation enforcement standpoint, respectively. And we gathered input from additional stakeholders at eight organic farming conferences across the US in 2014 and 2015.

The purpose of our State of Organic Seed project is to measure the progress we're making in increasing the availability, quality, and integrity of organic seed. We envision an organic food system built on a foundation of organic seed. This report serves as an important summary of ongoing challenges to achieving this goal, and includes updated recommendations to guide research, education, and policy efforts for the next five years.

## Why organic seed?

As a fundamental input in agriculture, seed serves as a farmer's first defense against pest, disease, and other production challenges. Seed genetics also largely dictate the quality and integrity of our food – from appearance to flavor to nutritional content. In this way, seed holds endless potential for transforming the food we eat and how we farm, especially when coupled with the principles that helped build the organic movement – the principles of health, ecology, fairness, and care.

But seed is much more than an input. It's a living, natural resource that demands careful management to ensure a secure and healthy food supply. Currently, the dominant seed system is controlled by a handful of chemical and biotechnology companies with no genuine interest in the success of organic agriculture. These players abuse intellectual property rights and fiercely protect them. They discourage farmers from participating in research and seed saving. And they put shareholder interests above those of the greater public.

As demand for organic products grows, so does demand for organic seed. As this report shows, the organic seed supply isn't keeping up with broader organic industry growth. Most organic farmers responding to our survey still rely on conventional (non-organic) seed for at least part of their operations.

Importantly, we found that farmers want to source organic seed to support investments in organic plant breeding. It's broadly accepted that organic systems provide different growing environments from conventional systems and that breeding crops under organic conditions can deliver varieties that increase the success of organic farmers and strengthen the organic integrity of their products. This is one of many benefits to expanding organic seed systems.

We believe the benefits of organic seed systems go well beyond helping organic farmers meet a regulatory requirement. An organic seed system – when viewed as an alternative to the dominant seed system – can help address bigger challenges in agriculture, including the preservation of crop genetic diversity and agricultural biodiversity; the privatization of seed and market consolidation; agricultural production fueled by high-input chemical systems that are toxic to humans and nature; genetic vulnerability in the seed and crops grown; nutritional deficiencies in the food supply; and social and economic injustices faced by farmers, plant breeders, and the communities they feed.

Therefore, the organic community has an opportunity to create a path for organic seed that is very distinct from the dominant system controlled by chemical and biotechnology companies. By establishing a shared vision and roadmap for developing organic seed systems, the organic community can avoid the negative trends seen in the conventional seed sector and conventional agriculture more broadly while delivering high-quality organic seed for all scales, crop types, and regions. This report helps monitor the progress we're making to achieve this vision.

## Some key findings

It's clear that over the last five years the organic community and seed industry have made progress in increasing the availability, quality, and integrity of organic seed. This progress includes:

**Organic farmers report using more organic seed** Unfortunately, the biggest producers still use relatively little and this has a big impact on overall acres planted to organic seed.

**Organic farmers are more satisfied with the organic seed they're using** Farmers responding to our survey report fewer problems with organic seed compared to five years ago (e.g., germination, variety integrity, and seed-borne diseases). This finding was consistent across crop types.

**More farmers believe organic seed is important to the integrity of organic food and that varieties bred for organic production are important to the success of organic agriculture** This finding demonstrates an improved understanding among farmers that breeding crops in organic systems is important to their success and that of the broader organic industry.

**A significant percentage of farmers save seed for either on-farm use or to sell commercially, indicating important opportunities to fill commercial organic seed supply gaps** The vast majority of farmers responding to our survey are interested in learning how to produce seed commercially. The lack of training, economic opportunity, and seed processing facilities were the top factors keeping farmers from growing organic seed commercially.

**Public and private investments in organic plant breeding and other organic seed research have increased by \$22 million in the last five years alone** In our last report we documented a mere \$9 million in investments between 1996 and 2010. This progress is encouraging, especially since it includes more diversity in funders. However, organic seed investments still pale in comparison to funding directed toward other sectors.

Despite this progress, challenges remain for expanding organic seed systems. We haven't seen major improvements in some areas. Some of the challenges include:

- Fewer organic certifiers are requesting that farmers increase their use of organic seed, and there is inconsistent enforcement of the organic seed requirement in general.

- Organic certifiers and inspectors lack training, resources, and strong guidance on organic seed availability, including a national organic seed database that includes full participation from the seed industry.
- Larger organic operations are still less likely to use organic seed.
- Buyer requirements remain a barrier to using organic seed for some of these larger operations.
- Forage crop growers haven't improved their use of organic seed.
- There remains a lack of experienced organic seed producers.
- Organic seed is more expensive to produce.
- Organic seed research, education, and policy work is underfunded.
- Some public and private breeders have limited access to appropriate germplasm for organic plant breeding projects.
- At times, intellectual property rights serve as a barrier for farmers, breeders, and seed companies.
- Public and private organic breeding programs need more infrastructure and capacity.
- The public is generally uneducated on the benefits of organic seed.
- There are inadequate policies and practices to protect organic seed from contamination by genetically engineered crops.

## Recommendations

Building organic seed systems that are responsive to farmer and market needs will take collaborative and coordinated strategies in research, education, and policy. Below are the top five priorities from each of the chapters covering organic plant breeding, the organic seed supply, and seed policy. A full list of recommendations is included in the conclusion to serve as a roadmap for the next five years.

### » Organic plant breeding

**Increase public and private investments in organic plant breeding and other organic seed research** While investments in organic breeding are on the rise, including investments from diverse funding sources, they're still insufficient to support more rapid increases in the diversity and quantity of organic seed available. Beyond breeding, there must also be more investment in research that supports organic seed production, management of seed-borne diseases, and other priorities identified by seed companies, researchers, and farmers producing organic seed.

**Study and implement successful models, methods, and approaches to organic plant breeding** Organic plant breeding requires different approaches because the production systems are different from their conventional counterparts, as are the values, principles, and regulations associated with organic agriculture.

**Develop new, and expand existing, organic variety trial networks at the regional and national level** Variety trials provide essential performance data to farmers and researchers but currently lack coordination in management, funding, and the dissemination of results.

**Develop and promote fair intellectual property models** These models shouldn't impinge on breeders' and farmers' rights while also allowing for returns on research investments to support future innovation.

**Improve commercialization pipelines** Mechanisms are needed to help new organic varieties get into the hands of farmers, including better networking between breeders and seed companies, coordination of testing networks, and streamlined intellectual property and royalty negotiations.

## » Organic seed supply

**Train more organic seed producers and support existing producers** There's an urgent need to provide more formal training and resources to increase the number of organic seed producers in a variety of crops and at different scales.

**Develop region-specific resources for production data and practices** Organic seed producers need yield and economic data by crop type and region to support their success.

**Create networks for organic seed producers and suppliers to support information and equipment sharing** Organic seed producers are challenged by a lack of access to appropriate seed harvesting and cleaning equipment, and need more support with handling and storage.

**Protect growers from the economic risks inherent to organic seed production** Explore and encourage the use of organic crop insurance and other incentive programs to encourage farmers to integrate seed production into their organic farm plans.

**Develop a public education campaign to promote organic seed** Many organic seed stakeholders want to see an educational campaign directed at farmers, gardeners, and consumers about the benefits of organic seed, what goes into its development, and why it may have a higher price tag.

## » Organic seed policy

**Amend the National Organic Program's guidance document regarding organic seed** The NOP should amend its March 2013 guidance document to provide more clarity and instruction that will ensure stronger and more consistent enforcement of the organic seed requirement, including holding accountable the operations that don't demonstrate continuous improvement in their organic seed sourcing.

**Increase certifier and inspector trainings in organic seed** Consistent enforcement of the organic seed requirement will require more guidance from the NOP; more resources available to certifiers, inspectors, and organic operators on organic seed availability; and regular trainings on how organic certifiers and inspectors can support increased sourcing of organic seed.

**Improve regulations governing genetically engineered crops** The US Department of Agriculture and other government agencies must improve regulations and oversight to alleviate the current burdens and costs currently associated with GE contamination in organic seed.

**Address problems of market concentration and restrictive intellectual property rights** At times, utility patents and other forms of intellectual property rights are abused at the expense of farmers', breeders', and seed companies' freedom to operate.

**Direct more funding toward organic seed advocacy** Organic seed policy organizing capacity is lacking in part because foundations and others in the philanthropic community don't fund the policy priorities described in this report – this is a risk point to the goal of establishing an organic food system built on a foundation of organic seed.”