New Seed

STANDARD REPORT

JANUARY - DECEMBER 2025

New Seed Standard Report
January–December 2025

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LETTER FROM THE DIRECTOR

We started out the year dealing with the sudden collapse of USAID– we lost $3.6M in committed funding for the year overnight. We had a contingency plan in place, and within a week we cut our budget, let go 1/6 of our staff, closed projects, and went to our partners to ask for help in closing the gap. By May, with support from our partners, that gap was closed. I cannot express my thanks deeply enough. We've channeled our gratitude into doing the most we can to serve our mission: to get the most nutrition to the largest number of people who need it.

Central America is going really well. We grew from 30,881 farmers in 2024 to 52,331 in 2025. They fed 1.1M people. Based on our seed sales numbers, we were on track to reach 60,000 farmers, but farmers purchased 49% more seed on average than last year. Why? Farmers who buy our seed are making a lot more money; in Guatemala they increased their profits 95% ($227). When farmers faced drought, they increased their profits by even more. We launched three new seeds, one of which we think will double that additional profit. We're aiming for 100,000 farmers in 2026, and we're on track.

Governments are also far more involved. In Guatemala, the government, local institutions and New Seed are now running the subsidy and the Guatemalan Congress increased our funding 60% (so most of the subsidy will be covered by state funding). In El Salvador, the government is leading implementation of the subsidy, has made the seeds their own, and covers most monitoring, evaluation, and promotion.

There have been three big challenges. We've produced bad parental seed and not enough of it. It's slowed down seed launches and affected our partner seed companies. It may also be affecting nutrition levels. Nutrient levels in our monitoring parcels were surprisingly lower than previous years. We're working on fixing both. Lastly– a typo in the national budget meant we didn't get access to our funding from the Guatemalan government in 2025, but our new allocation doesn't have that typo.

Our plan to scale through partners in Africa and gene editing is underway. We successfully used gene editing to improve protein quality and launched a gene editing partnership with the world's primary source of maize seeds for Sub-Saharan Africa, the International Maize and Wheat Improvement Center (CIMMYT). We're working with CIMMYT to develop biofortified seeds for the major regions of East and Southern Africa, identifying partners to work with, and continue to be on track to get biofortified versions of One Acre Fund's leading seeds back to them by late 2027.

We're honing our plan for scale, and while we don't have it all figured out yet, I think we're developing the strategies, people, allies, technology, and track record to eventually improve the nutrition (and thus overall quality of life) of a billion people. It's a big goal. We're at 0.11%. But in spite of last year's challenges, or maybe even more so, *because of them*, it feels like a really good way to spend a lot of our energy– and our lives.

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EXECUTIVE SUMMARY

Subsidized Seed Sales

- Seed companies produced a total of 10,868 bags of seed, more than triple the amount produced in 2024 and 24% over our goal for the year.
- Seed companies grew their subsidized sales 102%, overtaking New Seed for the first time.
- We sold our seed brand, *Fortaleza,* to one of our distributors; all sales of biofortified seed going forward will be by other companies, not New Seed. We expect 2026 sales to nearly double, led by only five seed companies.
- Most of our customers are now farmers who traditionally didn't normally purchase seed, our most important target segment; 52% of 2024 farmers repurchased seed in 2025, our highest rate to date.
- Only 6% of farmers who received donated seed in 2024 purchased in 2025, making us less confident that seed donations will lead to long-term adoption.
- The Salvadoran government launched a subsidized sales program, reaching 2,076 farmers.
- Seed production in El Salvador should double in 2026, but we lost the opportunity to grow it 5x due to failures of our R&D department to produce high quality parental seed.

Institutionalizing the Subsidy

- The Subsidy mechanism *Fondo Maíz de Poder* is overseeing subsidy decisions and will begin disbursing subsidy funds in Guatemala in 2026.
- The Guatemalan congress earmarked $650k for our subsidy in the 2025 budget, but we didn't get access to these funds due to a typo and a slow Supreme Court case.
- The Ministry of Agriculture initiated its largest purchase of biofortified seed yet, but it failed in the final purchasing process, so we paid for the seed that companies already produced and packaged, and donated it through another Ministry.
- Surprising us, congress didn't have leverage in the 2026 Guatemalan budget; the executive called the shots, fixed our typo, and increased funding 60%.
- El Salvador is implementing the subsidy, with the Salvadoran National Agricultural Research Center, CENTA, leading the vast majority of the roles New Seed leads in Guatemala.

Developing Better Seeds

- Our first gene editing project was a success; edited plants had higher protein quality.
- Estimates are that 70% of all maize produced in Sub-Saharan Africa come from seeds from CIMMYT's seed bank. We launched the world's biggest gene editing project for maize nutrition with them, in their leading parental seed for Africa.
- Our first seeds for Rwanda are on track, we'll ship them to One Acre Fund in 2027; meanwhile they are testing the taste and color of our biofortified grain with their farmers in Rwanda.
- Our partnership with CIMMYT gives us access to their ten best hybrids for Sub-Saharan Africa every year; we have our first batch already in Guatemala and in conversion.
- Our fourth generation seeds for Central America are in limited production; they offer more profitable production for seed companies, more yield for farmers, and similar nutrition rates to our existing seeds.
- Our goal was to replace all F5 production; we failed and only replaced 26%, as a result, instead of helping our farmers get $14-20M in additional profit in 2026, we'll be in the $7-10M range.
- Low quality parental seed is costing our seed companies 5-10% of their yield, a higher amount

of profit, and cost us over half of our growth in El Salvador.
- To address these issues, we've expanded and reorganized the R&D team, we're moving parental seed production from R&D to operations, and we're hiring a Chief Scientific Officer.

Impact

- We reached 52,331 farmers, 69% more than in 2024. This was less than we'd expected, but was largely due to farmers purchasing 49% more seed on average.
- We increased farmer profits by $6.8M, on a New Seed budget of $6.9M. We're happy to have a positive philanthropic ROI just based on farmer profits.
- Farmers who purchased in Guatemala increased profits by $227 (a 95% increase), which is similar to 2024 ($191, or 108%). In El Salvador, farmers improved their profits by $109 (11%).
- Farmers who received donated seed in Guatemala increased their profits by $101 (59%).
- Our farmers produced 95,027 mt of biofortified maize, enough to cover the annual consumption of 1.15M people in Guatemala and El Salvador.
- Farmers using F5 in drought conditions gained $274/hectare in additional profit compared to $166/hectare additional profit for F5 farmers in all weather conditions.
- Lab analysis of our farmers' maize samples show lower levels of zinc, iron, lysine, and tryptophan than we expected, and less than what our previous R&D plots have shown. We're currently investigating possible causes.
- After significant pauses due to USAID cuts, GiveWell funded one of our randomized controlled trials (RCTs), and the scientists behind both of our nutritional impact RCTs are now finalizing analysis and submitting papers for publication.
- We'll have an updated ex-ante model predicting our program's impact on stunting rates, the zinc, iron, and protein adequacy of diets, farmer profit, and Guatemalan national food sovereignty in March, featuring more robust methodology.
- New systems are allowing us to decrease errors and improve efficiency. We are also making all of our data public, starting with a detailed evaluation of our impact in 2025.
- A preliminary analysis by GiveWell estimates our program in 2024 was 3–8× as cost-effective as cash transfers. Our internal analysis estimated 20×.

Funding, Financials, People

- The closure of USAID cut $3.6M of funding out of a total $6.6M planned budget, but our partners helped us close the gap by May.
- We received $11.1M in total funding, but most was one-time and we have to focus more on fundraising going forward.
- Our 2025 expenses totaled $6.04M, lower than our original budget of $6.6M but higher than the emergency budget we imposed on ourselves after the USAID cuts.
- Our 2026 budget is 42% larger than 2025 expenses, with most increases being direct costs of our goal to double the number of farmers reached (subsidies and seed production) and the expansion of our gene editing program.
- Our annual audit is currently underway, with expected completion by April 2026.
- Turnover was high: we hired 20 staff in 2025, 19 departed.
- Our *Great Place to Work*-based survey on organizational health showed significant improvements from 2024; employee pride rated 97%.

CONTEXT AND KEY TERMS

New Seed's Strategy

Malnutrition rates have been decreasing globally, but for the 1.2B people who eat maize three times a day, the number of malnourished children is still on the rise. This population is fed by 53M smallholder farmers in Sub-Saharan Africa and Mesoamerica. Most are extremely poor and use low-quality maize seeds with low nutritional content. Almost none grow more nutritious, biofortified maize.

Three market failures prevent farmers from adopting higher-yielding biofortified seeds at scale:

1) Consumers and farmers won't pay more for nutritious maize, preventing seed development.
2) Without subsidies, most poor farmers cannot afford any new, high-yielding seeds.
3) Without a strong market, local seed companies don't develop and market new, higher-yielding or biofortified seeds.

New Seed's solution is to:

1) **Find the right seeds**. Every year, seed banks, international centers, and companies develop higher-yielding and more climate-resilient seeds for farmers in Africa and Central America. We identify these seeds, test them, and license them.
2) **Make them nutritious**. We crossbreed these high-yielding seeds with naturally occurring varieties with enough zinc, iron, and quality protein proven to decrease malnutrition.
3) **Make them accessible**. Farmers want improved seeds but often can't afford them. We partner with seed companies, governments, and NGOs to make these seeds more accessible through social programs and subsidies.

Maize Market

In Guatemala, our goal is for more than half of the maize consumed to be biofortified. We plan to reach this goal by getting more farmers to use our seed and increasing their yields so they produce more of the maize consumed in Guatemala. The table and descriptions below provide an overview of the structure of the maize market in Guatemala, the types of farmers, and their contribution to annual maize consumption to contextualize the number and type of farmers who will need to use our seed to reach this goal.

Table 1: New Seed estimate of Guatemala's maize market and maize farmer structure

Farmer Segment/Source	Hectares	Farmers	Average Yield (mt/ha)	Total Annual Production (mt)	% of Annual Consumption
Non-hybrid high elevation	157,990	320,000	2.6	410,364	19.2
Non-hybrid low-mid elevation	315,000	550,000	2.3	715,909	33.5
Low-segment hybrid	56,000	80,000	3.6	200,000	9.4
Mid-segment hybrid	28,000	40,000	3.9	109,091	5.1
High-segment hybrid	56,000	40,000	5.2	290,909	13.6
Imported illegally from Mexico	N/A	N/A	N/A	409,091	19.2
Total	**612,990**	**1,030,000**		**2,135,364**	**100.0**

Non-hybrid farmers do not purchase seed annually, but instead save and replant landrace, open-pollinated seeds saved from their previous harvests. These farmers typically use a limited amount of chemical fertilizer, herbicides, and seed treatment, which they purchase each year. Most only grow enough maize for home consumption, but some have large enough land holdings to produce enough maize to sell to the market. We estimate that the 870,000 farmers who do not purchase seed produce 53% of the maize consumed in Guatemala[1]. Our current seeds are suitable for the farmers in the low and mid-elevations (0-1,800 MASL), but seeds have not yet been developed for the 160,000 farmers in higher elevation regions.

Low-segment hybrid farmers purchase cheap but low-yielding hybrid seeds produced by local companies. The seeds cost ~US$45 per 20kg bag and provide farmers with only slightly higher yields than non-hybrid seeds. We estimate 80,000 low-segment farmers produce 9% of Guatemala's maize.

Mid-segment hybrid farmers use moderately priced seeds produced and sold by national Guatemalan companies. The seeds cost ~US$71 per 20kg bag and provide moderate yields. We estimate 40,000 mid-segment farmers produce 5% of the maize consumed in Guatemala.

High-segment hybrid farmers purchase the most expensive hybrid seeds from transnational seed companies every year. The seeds cost ~US$150 per 20kg bag but provide farmers with high yields. We estimate 40,000 high-segment farmers produce 14% of the maize consumed in Guatemala. Our current seeds' yields aren't yet competitive with this segment, but we hope that the next generation will be.

Breeding terms

Pure lines: Pure lines are seeds bred to be genetically homogeneous. They have specific traits (yield, nutrition, disease resistance, etc.) and are similar from generation to generation.

Hybrids: Most commercial maize seeds are hybrids. They result from pollinating one pure line with another. Commercial hybrids[2] generally have been bred for excellent yields and other positive traits. If a farmer buys a hybrid and saves seed from the grain produced, desired traits, such as yield, become less pronounced with each generation. Depending on a farmer's economic and agroecological context, it can be highly advantageous to buy hybrid seed every year (or every few years). The seeds used to produce hybrids commercially are commonly called parental seeds. Hybrids are not synonymous with GMO: none of the seeds New Seed commercializes or donates to farmers are GMO.

Seed conversion: We use the term seed conversion to refer to backcrossing, a process to convert a pure line to have a new trait while maintaining as much of the genetics and desirable performance of the original line as possible. Imagine creating a golden retriever with poodle hair by crossing a golden retriever and a poodle, finding the puppies that are the most like golden retrievers but with full poodle hair. In the next generation, you cross those puppies with a golden retriever and pick the puppies that are even more like golden retrievers but still have poodle hair, etc. After several generations, you may have a few golden retrievers with poodle hair. New Seed backcrosses (or converts) the lines of high-yielding hybrids to have improved nutritional traits while maintaining their yield.

[1] In 2020, the Guatemalan government estimated 20% of maize is imported illegally from Mexico. In our model we estimate 17%.

[2] If a (simple) hybrid is itself crossed with another line or another hybrid, it forms a triple or double hybrid. Most commercial seeds in Sub-Saharan Africa and Mesoamerica are triple or double hybrids.

SUBSIDIZED SEED SALES

Doer at Scale

Summary

Guatemala

- We may be overcoming our biggest challenge to large-scale adoption: most of our customers are now farmers who traditionally didn't normally purchase seed.
- 52% of 2024 farmers repurchased seed in 2025, our highest rate to date.
- Only 6% of farmers who received donated seed in 2024 purchased in 2025, making us less confident that seed donations will lead to long-term adoption.
- Promotion led to greater demand than supply in 2025; we'll continue similar strategies in 2026.
- Seed companies grew their subsidized sales 102%, overtaking New Seed for the first time.
- Seed companies produced a total of 10,868 bags of seed, more than triple the amount produced in 2024 and 24% over our goal for the year.
- Most sales are coming from seed companies that traditionally didn't produce seed.
- We sold our seed brand, *Fortaleza,* to one of our distributors; all sales of biofortified seed going forward will be by other companies, not New Seed.
- We expect 2026 sales to nearly double, led by only five seed companies.
- Weather, inadequate infrastructure, and low-quality parental seed led to lower yields than expected for partner seed companies.

El Salvador

- The Salvadoran government launched a subsidized sales program, reaching 2,076 farmers.
- Seed production protocols from Guatemala didn't work perfectly in El Salvador, and seed companies produced 1,007 20-lb. bags, 65% of our goals.
- Seed production in El Salvador should double in 2026, but we lost the opportunity to grow it 5x due to failures of our R&D department to produce high quality parental seed.

Farmer Demand

We may be overcoming our biggest challenge in large-scale adoption: most of our customers are now farmers who traditionally didn't purchase seed

As shown in *Context and Key Terms (pg 6 - 7)*, we estimate that 85% of Guatemala's farmers do not traditionally purchase seed. In order to convert enough of the country's production and consumption to biofortified maize to significantly affect stunting and malnutrition, we need a large portion of these farmers to purchase biofortified seeds. In past years, we made slow progress; only 19-28% of farmers purchasing our seeds were from this segment, yet we needed to reach more than 50% to convert enough non-seed-purchasing farmers each year to reach our goals.

In 2025, 62% of our customers were from this segment, a rate we did not project to achieve for several years. As mentioned above, a significant portion of these farmers are repeat adopters. But a significant portion are new. Our surveys asking farmers where they first heard about the seed and the sources of information that they trust led to some surprising conclusions. This information is self-reported and only from one year, but the results are encouraging us to test new hypotheses going forward.

Table 2: Characteristics of traditionally non-hybrid farmers who purchased biofortified seed in 2025

Source	Farmers first heard about seed from (%)	Farmers continue to hear about seed from (%)	Source that is most important for their decision to buy (%)
Agrodealers	75	71	54
Community/family	10	N/A	19
New Seed staff	4	7	3
Radio	3	3	9
Demonstration plots	3	1	15
Social media	0	10	10
Ministry of Agriculture	4	4	3

Some key takeaways:

1) Agrodealers remain the most important promotional channel by far, which means that providing agrodealers good margins, technical training, financial incentives, and firsthand experience with the seed, all of which are activities led by our farmer promotion team, remains one of our top priorities.
2) We're debating the need for demonstration parcels. They have a high impact on farmers that see them. Is the experience so powerful that it warrants more investment, even though the cost is so high? Reaching ~1,000 farmers with field days costs well over $100,000– but may be especially important when launching new seeds.
3) Social media (primarily TikTok) seems to not lead to initial farmer knowledge of the seeds, but farmers report it to be the second most common way they continue to hear about the seeds and the fourth most important. To put this into perspective, the results above were achieved with an approximately ~$40,000 investment in staff time and TikTok promotion. 73 videos led to 6.7M views and 292k likes, three times our reach in 2024.
4) Radio took even less staff time and cost, and provided higher initial awareness, but lower continued awareness and is slightly less trusted than social media.
5) Very few purchasing farmers learned about the seed from the Ministry of Agriculture's seed distribution programs, but this may change if the government switches largely to biofortified seeds for their handout programs.

52% of 2024 customers repurchased seed in 2025, our highest rate to date

Our repurchase rate was 39% in 2023 and 51% in 2024. The data also shows a loyal customer base with 69% of farmers who purchased in both 2023 and 2024 purchasing again in 2025.

Only 6% of farmers who received donated seed in 2024 purchased in 2025, making us more cautious of the contribution that seed donations can have on increasing long-term adoption

Among farmers who received a donation in 2024, 6% purchased biofortified maize seed in 2025. Of farmers we surveyed who received donated seed in 2023, 6% purchased in 2025. We will be exploring the data further, but we're entertaining the idea that seed donation programs may drive awareness, but not lead to short-term, cost-effective increases in purchases. They are, however, a major

component of government policy, and so exploring how to make them better long-term drivers of farmer seed adoption is a priority.

Promotion led to more demand than supply in 2025; we'll continue similar strategies in 2026
We'll invest more in radio and TikTok and expand field days from eight to 64. Historically, we've provided staff bonuses and promotional materials to around 100 agrodealers selling our *Fortaleza* brand of biofortified seed. This year, we'll expand this program to 262 agrodealers supporting sales from all partner seed companies. We estimate that our seed and support will be available in 15-20% of the agrodealers in Guatemala. Overall, our goal is to get more efficient at what has been shown to work so that seed continues to sell out, even with nearly double the seed on shelves in 2026 as in 2025.

Seed Company Sales

Seed companies grew their subsidized sales 102%, overtaking New Seed for the first time
The core of our model in Central America is to subsidize other seed companies who produce and sell biofortified seeds at reduced prices. Over the last three years, we focused on building demand for biofortified seeds through sales with our own seed brand, creating and promoting an umbrella brand for all biofortified seeds, limiting our own sales in order to create demand for other companies, and providing companies with technical support and sales assistance. In 2025, these bets paid off.

Other seed companies sold 7,209 bags to farmers, growing sales 102% from 3,594 bags the year before. New Seed sold 6,085 bags to farmers, growing sales 21%.

Table 3: Total Production of biofortified seed (20 kg bags)

	Purpose	Actor	2023	2024	*2025 Goals*	2025 Actuals	2026 Projected
GT	Subsidized sales to farmers	New Seed	5,688	5,000	*7,910*	6,085	0
		Other companies	1,906	3,594	*8,752*	7,209	22,300
	Sales to government	Other companies	0	0	*0*	0	0
	Sales to New Seed for government donation	Other companies				3,659	6,930
	Donations	New Seed	1,982	1,904	*2,723*	3,292	7,070
	Total Guatemala		**9,576**	**10,498**	***19,385***	**20,245**	**36,300**
ES	Sales to farmers	Other companies (El Salvador)	0	0	*1,540*	1,007	2,500
	Donations	Acceso, CRS, CENTA, others	0	0	*0*	13	0
	Total El Salvador		**0**	**0**	***1,540***	**1,020**	**2,500**
	TOTAL		**9,576**	**10,498**	***20,925***	**21,265**	**38,800**

Seed companies produced a total of 10,868 bags of seed, more than triple the amount produced in 2024 and 24% over the goal for the year

At first glance, it seems that seed companies missed their sales goal of 8,752 bags, but this is largely because they increased their production goals and shifted some seed they were planning to sell to farmers to a large sale to the government instead (see *Institutionalizing the Subsidy, pg 16).* Seed companies produced a total of 10,868 bags of seed for sale, of which 3,659 were destined for a sale to the Guatemalan Ministry of Agriculture, but was ultimately purchased by New Seed after the purchase agreement failed at the last minute.

Most sales are coming from seed companies that traditionally didn't produce seed

In the 2024-2025 production season, we expanded from supporting seven Guatemalan companies to twelve. As mentioned in our 2024 report, many were agricultural input companies that had not produced seed before, but sold other companies' seed throughout Guatemala.

We saw some very promising results. Agropher, an input sales company, exceeded their production goals by 24%. They increased sales 469% and sold 3,778 subsidized bags to farmers, accounting for 52% of third party sales. Agropher's success can be attributed to the company's experience in farming large areas of commercial maize, access to capital, and a strong personal commitment from the founder.

Most smaller agricultural input companies, however, will not be continuing. Nearly all attempted to contract multiple smallholder farmers to produce seed and faced challenges due to their contracted farmers' lack of equipment, irrigation systems, labor, and use of lower quality inputs that provide less effective pest and disease control. These issues were compounded by weather factors, increased pest pressure and the low-quality and difficult-to-manage parental seed, mentioned in our previous report and discussed below.

We sold our seed brand, *Fortaleza*, to one of our distributors; all sales of biofortified seed going forward will be by other companies, not New Seed

After we shifted to a subsidized seed model in 2020, we continued producing and selling biofortified seed. Our justification was to prove that subsidized sales could work, build farmer demand, regulate prices, and ideally create a situation in which seed companies would lose market share if they didn't join our program. We planned to continue our own sales until we felt that there was sufficient farmer demand, seed company capacity, and well-regulated prices for it to be unnecessary. Transitioning away from our own sales became even more important as we began advocating subsidies for biofortified seed in public policy: many policymakers assumed the purpose of the subsidy was to support our own seed company and generate long-term profits. Given the growth of production of quality seed and successful sales by seed companies in 2024 and 2025, compliance with recommended prices in the market, and projections for future sales growth, we decided to seek a buyer for our seed brand in 2025. Ultimately we decided on the agricultural inputs company, Agropro. We chose Agropro because they had distributed our brand for two years, accounting for roughly 20% of our sales. They have large landholdings, meaning they can produce commercial seed on their own land, eliminating the need New Seed had to contract several farmers to do the production . They have the financial capacity to grow the brand, and we felt confident in the values and capacity of the owner to do so.

We expect 2026 sales to nearly double, led by only five seed companies
The NGO *Fondo Maíz de Poder (Maíz de Poder* Fund), which now administers Guatemala's subsidy program, selected the five best seed companies for 2026: the three largest current producers (Valle Verde, Agropher, and Semillas Morales), a new company ASO, and Agropro, which now owns the *Fortaleza* brand. This is a significant reduction from the 12 companies we supported in the 2024-5 production season. This change reflects both our challenges working with small companies and producers, as well as lower risk tolerance now that the subsidy is being overseen by a technical committee of other leading agricultural institutions, many with their own experiences working with candidate companies.

The seed companies that were selected for the subsidy performed well in 2025 due to stronger technical capacity and operational maturity. Valle Verde is Guatemala's largest national seed company and has produced and sold biofortified seed for five years. Agropher has completed three production and sales cycles in the last two years. Semillas Morales is also an experienced producer, with prior experience producing ICTA's (Guatemala's Agricultural Research Center) biofortified seed with financing from the Taiwanese Embassy. They employ full-time professional staff to oversee field operations, have sufficient labor to perform critical tasks such as detasseling effectively, and operate on concentrated land areas rather than dispersed small plots, allowing for tighter supervision and quality control. The owners of all three companies are directly involved in day-to-day production decisions. Valle Verde has built-in operational continuity, including irrigation, drying patios, tractors, equipment, and secured land. With our support, Agropher has followed a similar model—investing in irrigation equipment, cold storage capacity, and renting an additional 17 hectares to expand production. Agropher, Valle Verde, and Agropro also have large distribution networks covering nearly all tropical maize producing areas in the country.

Consolidating production among these five partners will allow us to provide stronger support to each one, and to strengthen the reputation of the *Maíz de Poder* subsidy program and our biofortified seeds, especially as we launch new varieties.

During late 2025, the fund approved contracts for the production of an estimated 22,300 bags of seed in 203 ha. In all, 195.5 hectares were planted; 141.7 were planted during the recommended window, although 5.5 were lost due to late detasseling and high weed population. If the companies achieve our historic yield numbers, this will lead to production of 17,400 bags, 78% of our goal for the year. If, however, improved infrastructure, planning, and technical assistance prove successful, we hope to achieve yields of 2.2 mt, leading to 21,505 bags of seed, 96% of our total annual goal. Based on initial yield data, we'll encourage our partners to plant an additional 10-65 hectares during the rainy season.

Seed Production

Weather, inadequate infrastructure, and low-quality parental seed led to lower yields than expected for partner seed companies
Supporting other seed companies in producing seed was our biggest challenge of 2024. Lower yields for seed companies not only mean less seed for sale, but also decrease margins to the point of causing significant losses. Behind low yields for seed companies were diseases such as tar spot and maize lethal streak virus, rains leading to rot in the field due to a lack of drying infrastructure, and seed companies failing to plant the right number of parental seeds, at the right time, and with the right

spacing. Making these problems worse was low genetic production potential from our hybrid F5 and low quality parental seed produced by our R&D program.

To address these issues, we expanded the team, developed more rigorous protocols and field visit schedules, collaborated with partners on choosing the best agricultural inputs, subsidized trials of new inputs we thought would be more effective, and ensured our team was present when seed companies planted by only providing them parental seed on the day of planting. Our R&D team began more extensive testing of parental seed and implemented new quality control procedures.

Table 4: Seed company yield (mt/ha)–Goal is 2.2mt/ha

	Goal	2024	2025
Valle Verde main season	2.2	1.65	2
Agropher main season	2.2		1.55
Agropher rainy season	1.5	1.2	1.46

We made some significant progress. Valle Verde went from 75% to 91% of the goal on yield, while Agropher met 97% of the goal during the rainy season, but only 70% during the main production season. A detailed examination of the problems and solutions behind low yields is present in the Annex (pg 43-45). In summary, we successfully addressed issues with the two main diseases of 2024 and got seed companies to plant parental seeds in the right way. Seed companies still applied less fertilizer than we recommended, planted outside of the best season, and failed to invest in infrastructure to dry seed (in the case of Agropher).

We've already made some significant progress addressing these issues with the seed production in the main 2025-2026 season.

1. 90% of the land needed for our planned annual production is already planted, and was done so in the main production season, when production risks are the lowest. We achieved this by providing more of the subsidy up front, contingent on planting during the right time period.
2. We provided a small grant to Agropher to support a large investment in irrigation, seed drying, and storage infrastructure.
3. The operations team led additional testing to hone the recommendations for parental seed planting, and now has new recommendations for each region in Guatemala.

A significant amount of the work that we've been doing in supporting seed companies is due to low seed production yields of our current biofortified hybrids. The amount of seed that a seed company produces (called producibility) is different from the yield that a farmer gets when planting that seed. While our current seeds have strong yields for farmers, their producibility is subpar, in some cases requiring excessive support to and collaboration from seed companies to achieve profitability, even with our subsidy. Developing better biofortified seeds is the critical solution; seeds that are optimized for both producibility (profit for the seed company), yield (profit for the farmer), and nutrition.

El Salvador

The Salvadoran government launched a subsidized sales program, reaching 2,076 farmers
In 2025, New Seed and the Government of El Salvador jointly implemented the country's first subsidized sales program for biofortified maize. The program adopted the *Maíz de Poder* branding from Guatemala–and featured *CENTA-Biofortic,* the government's brand for our F5 seed. Over 2,000 Salvadoran farmers purchased subsidized biofortified seed in the first year of the program.

Three seed companies and the government's Agricultural Research Center CENTA, produced seed and sold it through 17 agrodealers and four CENTA stations, covering 7 of El Salvador's 14 departments. New Seed, CENTA, and the three seed companies developed and launched promotional materials, established 6 demonstration plots across the country, and held 8 field days during the April–May season. CENTA and New Seed provided agrodealers with 4 sessions of targeted training and point-of-sale support covering the seeds and best management practices for farmers.

Seed production protocols from Guatemala didn't work perfectly in El Salvador, and seed companies produced 1,007 20-lb. bags, 65% of our goals
In early 2025, our first rounds of biofortified seed production in El Salvador fell short of initial targets. Production protocols that had worked well for Guatemalan producers in the past did not translate cleanly to Salvadoran conditions, limiting yields and final production. In high-temperature environments, male plants may release pollen earlier and for a shorter period, while female plants can become receptive at slightly different times; increasing the proportion of male rows helps ensure enough pollen is available to maintain high yields. Based on results from Guatemala's southern coast, we originally recommended a 4-4-0 male-female split, but learned through this experience that in regions of El Salvador and Guatemala where temperatures reach 36°C, F5 requires a 6-4-0 split to allow a broader pollination window between male and female plants. We were able to pivot quickly, and by early February we had implemented and tested these adapted protocols in Agrícola Los Blancos' later production cycles, which achieved 93% of their target.

Only one Salvadoran producer, Semillas M&M, was dropped from the subsidy program for 2026. They ran into additional issues, mainly due to poor irrigation management—they lacked the staff, equipment and didn't follow guidelines. Additionally, they failed to present their invoices to receive subsidies, in accordance with our contract requirements.

Our team in El Salvador led critical activities to onboard and support seed producers participating in the subsidy program, including securing a private seed processing plant, and assisting producers with administrative diligence and seed certification processes.

Seed production in El Salvador should double in 2026, but we lost the opportunity to grow it 5x due to failures of our R&D department to produce high quality parental seed
CENTA and the participating seed companies stayed highly motivated. Throughout 2025, we worked with four producers in El Salvador who planted a total of 17.5 hectares. The Salvadoran government's agricultural research center, CENTA, contributed significantly to biofortified seed production with 3.5 hectares.

In 2026, six producers will more than double production output by planting a total 27.65 hectares, with CENTA slightly increasing their production to 4.2 hectares. They had originally submitted applications

to the subsidy fund to produce 51 hectares of seed, enough for 5,621 bags. This would have represented a fivefold increase over 2025 production levels, and brought El Salvador and close to the scale we achieved in Guatemala in our fifth year. Unfortunately, we were unable to capitalize on that opportunity. We failed to deliver parental seed on time, because the seed produced by our R&D program failed twice to pass germination requirements for import. The planting season passed, and we lost 25.5 of the 51 hectares confirmed by our production partners, reducing our projected output for 2026 to roughly 2,800 bags.

INSTITUTIONALIZING THE SUBSIDY

Payer at Scale

Summary

- The Subsidy mechanism *Fondo Maíz de Poder* is overseeing subsidy decisions and will begin disbursing subsidy funds in Guatemala in 2026.
- The Guatemalan congress earmarked $650k for our subsidy in the 2025 budget, but we didn't get access to these funds due to a typo and a slow Supreme Court case.
- The Ministry of Agriculture initiated its largest purchase of biofortified seed yet, but it failed in the final purchasing process, so we paid for the seed that companies already produced and packaged, and donated it through another Ministry.
- Surprising us, congress didn't have leverage in the 2026 Guatemalan budget; the executive called the shots, fixed our typo, and increased funding 60%.
- El Salvador is implementing the subsidy, with the Salvadoran National Agricultural Research Center, CENTA, leading the vast majority of the roles New Seed leads in Guatemala.
- After pausing our small Honduras expansion pilot during the USAID cuts, we've put the program on indefinite hold in order to focus on consolidating progress in Guatemala and El Salvador and expanding more quickly to East Africa.

Guatemala

The Subsidy mechanism *Fondo Maíz de Poder* is overseeing subsidy decisions and will begin disbursing subsidy funds in 2026

Together with several of Guatemala's leading agriculture and nutrition organizations Inter-American Institute for Cooperation on Agriculture (IICA), Ministry of Agriculture (MAGA), the Guatemalan government's national Agricultural Research Center (ICTA), the Institute of Nutrition of Central America and Panama (INCAP), we founded the NGO *Fondo Maíz de Poder* in December 2024 to serve as an independent entity responsible for managing biofortified seed subsidies in Guatemala. Its role is to receive public funds from the Guatemalan budget and distribute them to selected partner seed companies. Throughout 2025, we formally established *Fondo Maíz de Poder's* Board of Directors and Technical Committee, which defined and implemented technical requirements and processes for the subsidy, including minimum nutrition requirements, genetic quality control, and payment schedules. All current subsidized seed companies, their current production, and payments have been reviewed and approved by the technical committee. This is a major milestone, because the Guatemalan government is now directly involved in all day-to-day subsidy decisions. New Seed continues to provide funds for the subsidy, due to delays in receiving planned 2025 funding from the Guatemalan government.

The Guatemalan congress earmarked $650k for our subsidy in the 2025 budget, but we couldn't access these funds due to a typo and a slow Supreme Court case

In late 2024, we hit a huge milestone: for the first time, the Guatemalan congress voted to include $650,000 in the national budget to fund our biofortified seed subsidy program. This was important, not just as a symbolic first commitment from the Guatemalan government supporting our program, but also because it would cover 70% of subsidy costs for 2025, decreasing reliance on philanthropic capital.

We expected funds early in 2025 so that we could pay out subsidies to our partner seed companies after the main sales season, but implementation stalled. The Ministry of Agriculture was responsible for disbursing funds to the subsidy program, but the Minister resigned, slowing the process. By mid-year, we resumed the process with new ministry leadership, but another issue surfaced: the name the Guatemalan congress had used for the subsidy designation was "*New Seed–Fondo Maíz de Poder*", instead of *ONG Fondo Maíz de Poder*. After four months of deliberation, and in spite of a letter from the head of the Guatemalan congress's budget committee, the Ministry determined it was unable to disburse funds unless the Supreme Court approved it. The case was submitted to the Guatemalan Supreme Court, which provided a temporary injunction in October while adjudicating. Unfortunately, due to court recesses and procedural delays, the case was not resolved within the fiscal year. While there still remains a small possibility these funds will be retroactively provided to *Fondo Maíz de Poder* (given the temporary injunction and the strength of the case) the result was very disappointing: *Fondo Maíz de Poder* got funding in the national budget and then never got to use it.

The Ministry of Agriculture initiated its largest purchase of biofortified seed yet, but it failed in the final purchasing process; we paid for the seed and donated it through another Ministry

Over 2024 and early 2025, we invested heavily in supporting the new administration's seed programs. We donated large volumes of seed and supported the Ministry in monitoring the yields, climate resilience, and farmer experiences. We also supported the Ministry in developing a new food sovereignty plan, which included proposals to improve administrative processes for purchasing seeds, targeting of farmers receiving the seeds, and the yields and nutrition of those seeds. As a result, the Ministry launched a new seed purchase program which subcontracted one of the leading international agriculture institutes (IICA) to purchase seed (overcoming previous administrative limitations) and prioritized higher yielding seeds, including $450,000 of our biofortified seeds.

Because the Ministry did not launch its tender in time to allow seed companies to produce seed, and seed companies didn't trust the Ministry would follow through on its purchase commitment, New Seed worked with IICA to organize seed companies and offered a commitment to purchase seeds (at a lower price) if the Ministry failed to purchase. Everything was on track until the final week. IICA launched the acquisition, received and reviewed, determined purchases, coordinated reception of the seed, and was in the final stages when the Ministry failed to provide a critical document to IICA, which was compelled to cancel the purchasing process.

New Seed pivoted quickly, purchasing seed from the seed companies involved. When the Ministry of Agriculture didn't respond to our request to work together to donate the seed, we worked with the Guatemalan Ministry of Development to provide the seed through their programs. This relationship, and our willingness to support the Guatemalan government, even with the negative experience with one ministry, ultimately proved very important for our work with the 2026 budget.

Surprising us, congress didn't have leverage in the 2026 Guatemalan budget; the executive called the shots, fixed our typo, and increased our funding by 60%

The 2025 Guatemalan national budget was primarily developed by Guatemala's congress, which created, for the first time in history, a line item for a biofortified maize subsidy. Our takeaway was that congress was far more important than the executive if you want to affect the budget.

However, the 2026 budget process was very different. The executive presented its draft and muscled it through congress over several days with no amendments. This caught us completely off guard. While

the new budget did have the correct name for the subsidy program, it didn't have the significant increases in funding that congressional allies had thought likely. Over the course of six weeks in late December and January, we pivoted.

Through contacts within the U.S. Senate Foreign Relations Committee, we were introduced to the Guatemalan Ambassador to the United States, who became a critical entry point for engagement with the President's Chief of Staff. This engagement elevated the program's visibility at the highest level of government. At the same time, we activated and expanded our relationships across the executive branch. We met with the Minister of Social Development, the Minister of Agriculture and all vice ministers, and, for the first time, the Minister of Finance, who shared that he had heard about our work from multiple counterparts across the government. We also met with the congressional liaison responsible for coordinating between the executive and legislative branches, where we presented updated results and plans for growth. We launched a targeted public relations strategy to raise visibility among policymakers and opinion leaders, including interviews on widely followed Guatemalan political podcasts, radio programs, and media platforms.

As a result, the revised national budget included a 60% increase in funding for the biofortified maize subsidy program. *Fondo Maíz de Poder* will receive 8 million quetzales (~US$1 million) towards biofortified seed subsidies, enough for partner seed companies to reach around 26,000 farmers.

Our strategy for 2026 is Congress, Executive, and media

We've learned a lot about how to best support and engage congresspeople and ministries, as well as how to engage the media. We'll be building on all of these in 2026. Our focus will primarily be increasing the amount and long-term commitment to the subsidy program–especially given the high farmer demand, increasing seed company production capacity, increases in farmer income we're seeing, and the presence of larger amounts of biofortified grain in the market. We will still focus on getting at least one major government purchase of biofortified seed, but there is a real possibility that we may need to expand *Fondo Maíz de Poder* in the medium term to incorporate both the subsidy and a designated amount of seed handouts. This would fix one of both the Guatemalan congress and executive's most significant pain points, but do so in an integrated way that depends on support for the subsidy program that is far more cost-effective.

El Salvador

El Salvador is implementing the subsidy, with the Salvadoran national agricultural research center, CENTA, leading the vast majority of the roles New Seed plays in Guatemala

El Salvador's Maiz de Poder program is moving faster and at dramatically lower cost than our program in Guatemala. In 2024, the government provided trial seed to 1,000 farmers. By 2025, the Salvadoran Government, through the national agricultural research center, CENTA, directly operates the subsidy, determining price limits, costs, quality control requirements, creating and signing seed production and subsidy contracts, and providing subsidy quality control. The government has taken a lead in promotion of biofortified seeds, creating promotional events and materials, and convening farmers, input companies and policy makers.

The government is also supporting trials of new biofortified seeds, providing land and labor and technical oversight, with New Seed providing the new seeds and funding for inputs. Our new seed F9, is set to launch in El Salvador under the government's brand as *Biofortic* 2 later this year.

What we're most impressed by with the Salvadoran government is our collaboration on impact data. The Salvadoran government has copied our M&E systems, completing 39 monitoring parcels (which provides the primary data set behind our impact data for El Salvador in this report). This number compares to New Seed's 75 monitoring parcels in Guatemala.

While our El Salvador operation continues to be lean (four staff including one whose responsibilities cover the entire Central American region), nearly all, including our soon-to-be hired Policy Lead, were either recommended or vetted by the Salvadoran government.

Working with several agencies in the government, we've created a proposal for full subsidy funding and approval of gene editing, which are under evaluation. Our goal is for the government to begin funding the program by late 2026.

Figure 1: Odette Varela, General Director of CENTA, scores new biofortified hybrids to determine which to launch in 2026 and 2027

Figure 2: *Biofortic* presentation to farmers in Usulután, El Salvador in October 2025

Honduras

After pausing our small Honduras expansion pilot during the USAID cuts, we've put the program on indefinite hold in order to focus on consolidating progress in Guatemala and El Salvador and expanding more quickly to East Africa

In 2024, we launched a small pilot program in Honduras to explore expansion, modeled on our successful program in El Salvador. We worked with the Honduran government to register our biofortified seeds, attempted to pilot production with several local seed companies, and launched a collaboration with Catholic Relief Services (CRS) to promote the seed through their programs. In early 2025, we put the program on hold as a result of USAID cuts.

Working to restart the program, we reflected on our first year of work there, and settled on a decision to pause our program indefinitely. Our thinking centered on five major points:

1) We would need to build an established and dedicated team in Honduras, since critical regions in Honduras are not close enough that Guatemalan staff can commute (like they do to El Salvador).
2) Honduras' seed sector is dominated by low quality open-pollinated seeds and imported GM seed from multinationals. There aren't local seed companies that fit well with our model.
3) The Honduran government has been far less proactive or engaged in seed sector innovations, including our biofortified seed program, than the governments in El Salvador or Guatemala.
4) Our primary partner, Catholic Relief Services, was deeply affected by USAID cuts and operates a project model that leads to difficulty in long-term collaborations.
5) Stunting rates in Honduras are 18-23%, less than half the rate in Guatemala and far lower than average rates in our target African countries.

Taking these challenges into account, the real reason to stop our work in Honduras becomes far more clear. If we estimate the impact we'd have over the next 5-10 years by investing focus and funding in Honduras, vs. investing in Africa and gene editing, it's not a hard decision. The significant advances we

have made on both gene editing and our Africa expansion over the last 18 months make this math even more obvious.

At the same time, the number of malnourished children in Honduras is simply too high. Our hope now is that reaching a critical mass of farmers, funding, evidence and great new seeds in Guatemala and El Salvador will make Honduras a far easier lift in the future–and potentially it will be our gene editing strategy that quickly brings biofortified maize to the millions who need it there.

DEVELOPING BETTER SEEDS

Making farmers and seed companies more money–and the subsidy cheaper

Summary:
Gene editing and Africa

- Our first gene editing project was a success; edited plants had higher protein quality
- Estimates are that 70% of all maize produced in Sub-Saharan Africa come from seeds from CIMMYT's seed bank. We launched the world's biggest gene editing project for maize nutrition with them, in their leading parental seed for Africa.
- Our first seeds for Rwanda are on track, we'll ship them to One Acre Fund in 2027; meanwhile they are testing the taste and color of our biofortified grain with their farmers in Rwanda.
- Our partnership with CIMMYT gives us access to their ten best hybrids for Sub-Saharan Africa every year; we have our first batch already in Guatemala and in conversion.

Central America

- Our fourth generation seeds are in limited production; they offer more profitable production for seed companies, more yield for farmers, and similar nutrition rates to our existing seeds
- Our goal was to replace all F5 production; we failed and only replaced 26%, as a result, instead of helping our farmers get $14-20M in additional profit in 2026, we'll be in the $7-10M range.
- Low quality parental seed is costing our seed companies 5-10% of their yield, a higher amount of profit, and cost us over half of our growth in El Salvador.
- To address these issues, we've expanded and reorganized the R&D team, we're moving parental seed production from R&D to operations, and we're hiring a Chief Scientific Officer.

Gene Editing

Our first gene editing project was a success; edited plants had higher protein quality
Nineteen months after signing our research agreement with University of Wisconsin's Wisconsin Crop Innovation Center (WCIC), they successfully edited 10 genes, completing eight gene knock-outs and two overexpressions and tested the results for nutrition. Two showed positive results, one points to other possible edits, and a fourth is awaiting bioavailability testing. CRISPR knockout of bzip22 increased lysine ~15% versus unedited sibling controls. Transgenic overexpression of YSL1 delivered a 13% increase in tryptophan, 18% increase in lysine, and 12% increase in total protein (all $p < 0.01$). A third gene decreased lysine in a manner that suggests similar edits may increase it. A fourth gene targeting phytate (which blocks nutritional absorption) is awaiting lab analysis. This is a result of T2 plants, which allow us to see nutritional impacts, but aren't reliable predictors of the impact of these edits on yield. WCIC is planting a third generation in Wisconsin to evaluate how these edits affect plant growth, yield, and other agronomic traits. Results will be available at the end of 2026.

Results from at least two out of ten genes in our very first gene editing work are well above our expectations. Finding edits that increase protein quality ~15% range could mean that three edits would be enough to obtain more nutrition than our current seeds. To put this in perspective, several labs are charging ~$2,000 per edit now and prices are dropping. We have used these results to inform the far bigger project we are doing directly with CIMMYT.

Estimates are that 70% of all maize produced in Sub-Saharan Africa come from seeds from CIMMYT's seed bank. We launched the world's biggest gene editing project for maize nutrition with them, in their leading parental seed for Africa.
This is our most promising achievement of the year. CIMMYT has one of the world's leading programs for gene editing tropical maize. They run the most important maize genetics program for Sub-Saharan Africa. They are the lead on most programs developing new maize seeds for Sub-Saharan Africa. All of One Acre Fund's seeds in development originate in CIMMYT, as do the seeds launched by most governments and small companies in the developing world. They've also been our most important partner in seed development, with all of our current seeds in Central America based on their genetics. Unknown by most, they have one of the (if not the) world's leading programs on gene editing of tropical maize.

In spring 2025, CIMMYT had a breakthrough. They became the first nonprofit research center and seed bank to obtain a license to use CRISPR intellectual property to develop new maize seeds and support their commercial launch with partners. Before their deal was signed, we flew to their global headquarters and began the design of a project to test the leading candidates for maize biofortification directly in the leading parental seed for their Africa program, a seed used in several hybrids One Acre Fund is already promoting.

Our head of gene editing, Kasey Markel, had already spent months reviewing basically all publicly-available research to make a list of over 250 of the leading candidate genes for zinc, iron, and protein quality. We reviewed this list with members of our board and advisory board, CIMMYT's lead scientists, and scientists from leading gene editing companies before honing the list to the top 100 knockouts and 10 overexpressions for zinc, iron, protein quality, grain color, and phytates–and signed an $800k project.

Part of our agreement with CIMMYT is to pool technical and human resources during the editing process itself. Kasey is meeting with the CIMMYT team biweekly, supporting in key decisions, and has been present at CIMMYT's main lab, providing lab support and training in areas of expertise from his lab background, such as gene cloning.

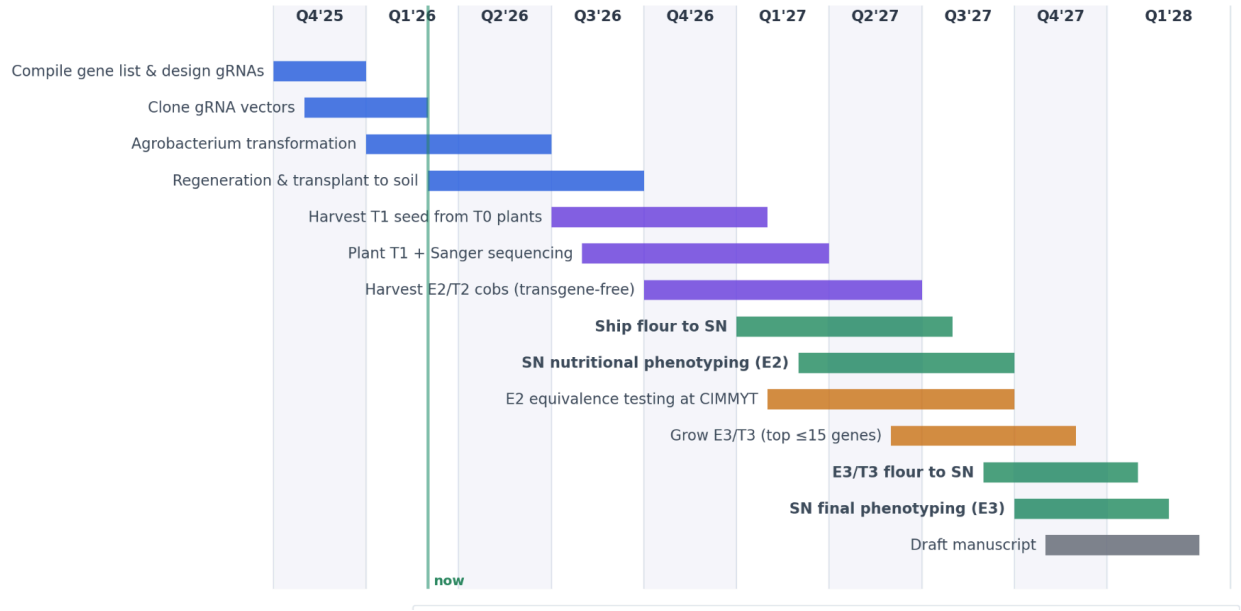

Figure 3: CIMMYT–New Seed gene editing program timeline

We expect our first nutritional analysis of edited plants from CIMMYT to take place in mid-2027, as shown in the GANTT above. CIMMYT will have results of the impacts on yield by late 2027, with New Seed's final nutrition testing taking place in late 2027 to early 2028. Data from all three of these results will help us determine next steps, from combining genes into seeds for testing and picking our second round of genes to test. We see this process as an iterative one–our goal is to simultaneously develop the first minimum viable product (meaningful increases in nutrition that don't impact seed agronomic characteristics), while also generating the data and understanding to develop better edits in the future. Ideally we want to generate edits that create nutritional levels exceeding our current seeds in Central America, and potentially incorporating new nutrients as well.

East Africa

Developing our first biofortified seeds for Rwanda is on track, we'll ship to One Acre Fund in 2027
Our program to convert One Acre Fund's leading seeds in Rwanda is on track to ship seeds in 2027. Our backcross program has continued on schedule at our experimental farm. We've incorporated a new program of genotyping to increase the speed of our program and ensure that the seeds we send back to Rwanda are even closer to their original versions.

Our Guatemalan biofortified hybrids (F5 and F7) are being grown in Rwanda for acceptability testing on grain color and taste
After a first trial on production, One Acre Fund is producing a second season of our commercial Guatemalan biofortified seeds in Rwanda. One Acre Fund will use the grain from this production to test the acceptability (color, smell, taste, texture) of ugali (a thick maize porridge) made with our biofortified maize among a sample of farmers and other consumers. The participants will also rate the acceptability of the size and color of the biofortified grain. One Acre Fund will also conduct a series of interviews with intermediaries in the maize flour value chain to understand the likelihood of penalties based on the size and/or color of the biofortified grain. One Acre Fund expects results by March.

Our partnership with CIMMYT gives us access to their ten best hybrids for Sub-Saharan Africa every year; we have our first batch already in Guatemala and in conversion

As part of our gene editing project with CIMMYT, we also negotiated access to their leading seeds in development for Sub-Saharan Africa. CIMMYT creates hundreds of new seeds each year, and over the course of four years, winnows them down to a few elite hybrids which are released to governments and seed companies. In the semi-final stages, CIMMYT and New Seed will now review data, determine the best seeds, and send them to Guatemala to backcross. Ideally, within a year or two of companies or governments publicly launching a new seed, we will be able to provide them a biofortified version of that same seed to substitute. We picked the best 10 hybrids with CIMMYT, they shipped the seeds from Zimbabwe, and our first batch is currently being backcrossed in Guatemala.

Central America

Our fourth generation seeds are in production; they offer more profitable production for seed companies, more yield for farmers, and similar nutrition rates to our existing seeds

Of the four seeds listed as *Gen 4* below, two are now in limited production, with the other two set for pilot production soon. One seed was developed by the Guatemalan government and three were developed by our program, using a combination of CIMMYT's original biofortified lines and our backcrossed lines. Yields are close to the highest yielding seeds in Guatemala. F11 has shown especially high producibility, which could dramatically cut seed company costs going forward.

Table 5: Yields (mt/ha) and nutritional content (mg/kg for zinc, iron; g/100g of protein for lysine) of popular conventional varieties, current biofortified seeds and pipeline hybrids

Segment	Seed	Yield	Zinc (open pollinated)	Zinc (hand pollinated)	Iron (open pollinated)	Iron (hand pollinated)	Lysine (open pollinated)	Lysine (hand pollinated)
High-segment	NK102	7.3	19.37	20.11	18.27	17.96	3.34	2.74
High-segment	DK390	7.2	19.61	21.77	17.23	17.29	2.39	2.89
Gen 4	SNHWZ230186	7.1	26.30	31.14	20.71	23.17	4.02	4.19
Gen 4	SNHWZ230111	6.9	29.81	29.33	21.70	21.48	4.13	4.13
Gen 4	F11	6.7	27.74	27.92	22.28	20.79	3.88	4.06
Gen 4	ICTA-HBQZN-02	6.5	30.05	34.04	22.40	22.24	3.88	4.11
Gen 2	F5	6.1	27.69	26.95	22.45	21.61	3.62	3.93
Mid-segment	H-59	5.6	19.38	20.26	17.16	17.16	2.38	2.20
Mid-segment	JC24	5.6	21.55	21.14	19.39	16.60	2.66	2.72
Gen 2	F7	4.9	30.31	28.96	23.46	21.25	4.25	3.86
Low-segment	HB83	4.8	17.10	19.68	16.48	17.46	3.32	2.92
Non-hybrid	Cola de raton	1.7	23.77	22.43	19.12	17.84	2.59	2.50

Genotyping our hybrids and parental seed have revealed issues in seed production as well as contamination of our parental seed; we're integrating the same genotyping into seed development and production to help us identify and fix these issues

Over the course of 2025, we began to notice that F5 was producing lower yields relative to other seeds than it had historically. In October 2025, the R&D team began a genotyping study of our parental seed and the commercial seed both New Seed and partner seed companies produced. We received data in mid-February 2026 and have yet to finish a complete analysis. There are several initial findings worth sharing:

1) Commercial seed produced by small farmers growing seed for New Seed's *Fortaleza* brand had 10-20% pollen contamination. This is due to inadequate detasseling and means our operations team has to make significant adjustments. This level of contamination could lead to up to a 10% loss in yield for farmers purchasing our seed. Both seed produced by our R&D team and seed from Valle Verde were much cleaner.
2) Several lots of parental seed had unacceptably high levels of contamination. We're still working on running final numbers, but this could support explanations as to loss of yield and nutritional levels.

Genotyping seeds is now becoming a standard process for New Seed and our partners. We've worked requirements for genotyping into *Fondo Maíz de Poder*'s quality control guidelines and we're adding them to our internal protocols for seed development and parental seed production. We will use the same genotyping test for everything from backcrossing to seed quality control, which will also allow us to have records of our seeds' genetics from the very beginning–allowing for far closer monitoring.

Our goal was to replace all F5 production; we failed and only replaced 26%

Given challenges with production of F5 and F7 for seed companies, one of our biggest goals in R&D in 2025 was to launch new "fast-tracked" hybrids, complete with testing by multiple seed companies to identify the best ways to produce the new seeds. We sought to have our fourth generation of biofortified hybrids, combined with an earlier-developed third generation, fully replace production of F5 by early 2026.

Table 6: Seed production in 2025-6 season by seed type

Seed	F5	F5B	F9	F11	ICTA03	TOTAL
Producer	**Gen 2**	**Gen 3**	**Gen 3**	**Gen 4**	**Gen 4**	
New Seed Guatemala	87.5	25.3	10.5	7.7	0.7	131.7
Other Companies Guatemala	147.0	31.7	15.4	1.4	0.0	195.5
Other Companies El Salvador	27.65	0	0	0	0	27.65
TOTAL	**262.15**	**57.0**	**25.9**	**9.1**	**0.7**	**354.85**

We failed in several ways.

We didn't launch our fourth generation seeds due to execution and systems issues in R&D
For our fourth generation seeds, we simply didn't produce enough parental seed on time. In several cases, our team miscalculated how much land to plant, planting half to a quarter of the needed amount. A lack of protocols, site visits, and data analysis meant that when it was clear that production parcels wouldn't meet needs, secondary parcels weren't planted or planned to make up the difference. Data on final production wasn't analyzed or shared in time in order to plant additional seed.

Secondly, the R&D team didn't lead tests of how to produce these new seeds in a complete way. Producibility testing requires planting the male and female parental seeds at different times to determine which combination leads to successful pollination and production. For our fourth generation seeds, the R&D team evaluated the yield of the female parent, but not how to grow the parents together or the yield this would produce. This left the operations team without clear guidance.

With F9, we had parental seed on time, but off-season production testing by the operations team and one of our seed companies were largely failures, which we think is due to poor response to high temperatures. We produced a limited amount of F9 during the cooler main production season.
By November 1st, we had initial results showing that F9 was similar to F5 in yield for farmers, if not better. The question was how to produce it. The R&D team had produced the seed earlier in the year and led three production parcels for final testing. Our operations team also established three test production parcels and piloted production with the seed company Valle Verde. While the R&D parcels had shown excellent yields and potential, two of the three parcels produced by the operations team produced yields below 25% of expectation, with Valle Verde's test producing a similar result. Ultimately, all of these tests were done in the rainy season, during an abnormally hot period which wasn't representative of typical temperatures. We decided to risk a small production of F9 with partners and New Seed's contracted producers for donation seed. In hindsight, we could have done two things better. First, we could have begun a more rigorous producibility testing earlier and involved operations, R&D, and our partner seed companies, ideally in the 2024-2025 main production season. Second, we needed to link the operations and R&D teams to both visit each others' parcels at flowering and other critical moments–and ideally have had both teams work together.

With F5b; parental seed from R&D was continuously late, so the operations team made plans and contracts with F5; when F5b finally became available, we weren't able to pivot farmers and contracts fast enough
The R&D team missed its initial deadline to provide F5b seed to operations. R&D planted late, harvested late, and faced delays with no clear resolution in the seed processing plant. Once the seed was ready (on November 11th), R&D requested time for additional quality control and our operations team requested technical planting recommendations, which the R&D team didn't have ready. The R&D team provided these technical recommendations on November 25th. Our operations team began to communicate with farmers to switch plans and contracts, but the process was slow, and by December 6th, half of all land planned for our new seeds was already planted with F5. The vast majority of this issue was due to R&D not beginning parental seed production early enough, not synthesizing their technical recommendations, and continuing to wait for a delayed seed processing plant instead of seeking another solution or processing by hand. Our operations team could have developed contracts

with farmers with a clause that we'd ideally plant F5b, but would do F5 if we didn't have seed in time–but this would have been especially complicated given that seed contracts and plans are now approved by *Fondo Maiz de Poder*, and not just New Seed's internal team.

The result: we could have helped our farmers get $14-20M in additional profit, instead we'll be more in the $7-10M range

The consequences of these failures are significant. Based on the increased yields farmers saw from our third generation hybrids F9 and F5b, replacing F5 with these materials in 2026 would have generated our farmers over $7M in additional profit above the increase F5 will provide them. A mix of these third generation hybrids and our fourth generation hybrids would have likely led to $10M of increased profit above what we are seeing with F5. Seed companies would have had higher profits and farmers would produce 10-15% more biofortified grain, nourishing more people and driving increased adoption from both groups.

Low quality parental seed is costing our seed companies 5-10% of their yield, a higher amount of profit, and cost us over half of our growth in El Salvador

Another growing problem with parental seed has been low germination rates. Seeds harvested by the R&D team and stored in our warehouse have seen germination rates fall below 80%. We installed an industrial cold room, but this has failed to prevent the problem. Our current theory is that seeds are being damaged from humidity or temperature during the drying process or in the seed processing plants, but we have yet to find a solution. Low germination seeds lead to lower yields for our partner seed companies when they produce our seed–and thus lower profits.

The deeper impact of the problem, however, was our growth in El Salvador. The Salvadoran government requires that all seed be at 85% germination to be imported. The R&D team sent samples twice for testing, which each failed to reach this level. By the time a lot was approved for importation, the planting season had passed.

To address these issues, we've expanded and reorganized the R&D team, we're moving parental seed production from R&D to operations, and we're hiring a Chief Scientific Officer

The R&D team was understaffed after USAID cuts, and we didn't restaff it quickly enough. That said, most of the errors came from a lack of clear direction, systems, and programmatic awareness from R&D leadership, our leadership team, and our CEO.

Over the course of 2025, we reorganized the R&D team twice, increasing staffing, raising salaries, and developing a team to lead the creation of improved systems and administrative controls. We also began a hiring process for a Chief Scientific Officer, which we hope will serve to improve the functioning of the team, oversee scientific collaborations with other organizations, and lead our gene editing work.

IMPACT

Summary

- We reached 52,331 farmers, 69% more than in 2024. This was less than we'd expected, but was largely due to farmers purchasing 49% more seed on average.
- We increased farmer profits by $6.8M, on a New Seed budget of $6.9M. We're happy to have a positive philanthropic ROI just based on farmer profits.
- Farmers who purchased in Guatemala increased profits by $227 (a 95% increase), which is similar to 2024 ($191, or 108%). In El Salvador, farmers improved their profits by $109 (11%).
- Farmers who received donated seed in Guatemala increased their profits by $101 (59%).
- Our farmers produced 95,027 mt of biofortified maize, enough to cover the annual consumption of 1.15M people in Guatemala and El Salvador.
- Farmers using F5 in drought conditions gained $274/hectare in additional profit compared to $166/hectare additional profit for F5 farmers in all weather conditions.
- Lab analysis of our farmers' maize samples show lower levels of zinc, iron, lysine, and tryptophan than we expected, and less than what our previous R&D plots have shown. We're currently investigating possible causes.
- After significant pauses due to USAID cuts, GiveWell funded one of our randomized controlled trials (RCTs), and the scientists behind both of our nutritional impact RCTs are now finalizing analysis and submitting papers for publication.
- We'll have an updated ex-ante model predicting our program's impact on stunting rates, the zinc, iron, and protein adequacy of diets, farmer profit, and Guatemalan national food sovereignty in March, featuring more robust methodology.
- New systems are allowing us to decrease errors and improve efficiency. We are also making all of our data public, starting with a detailed evaluation of our impact in 2025.
- A preliminary analysis by GiveWell estimates our program in 2024 was 3–8× as cost-effective as cash transfers. Our internal analysis estimated 20×.

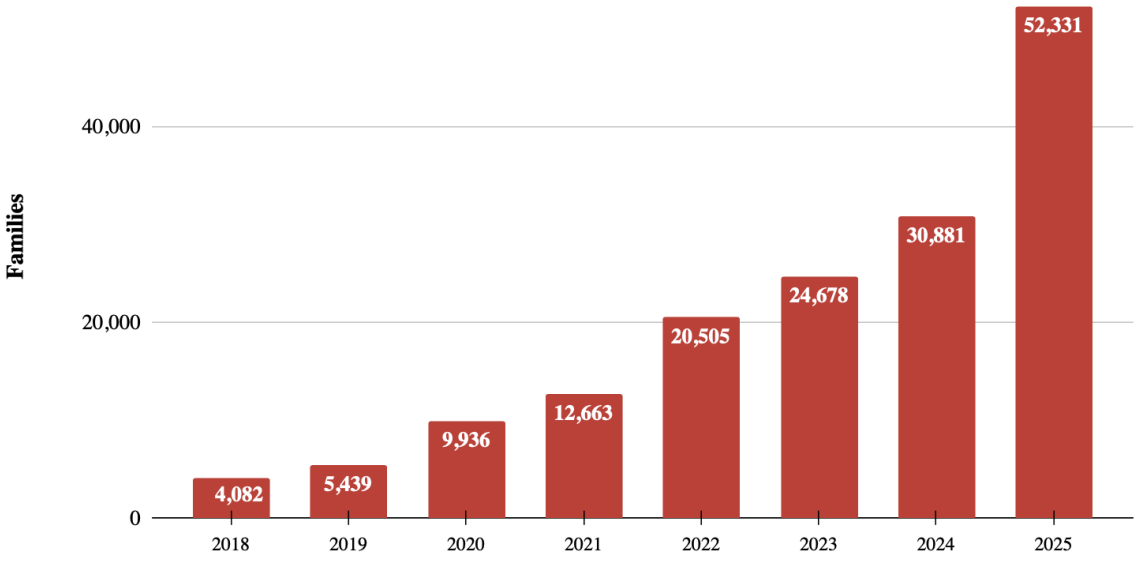

Figure 4: Farming families that planted New Seed biofortified maize seed (2018–2025)

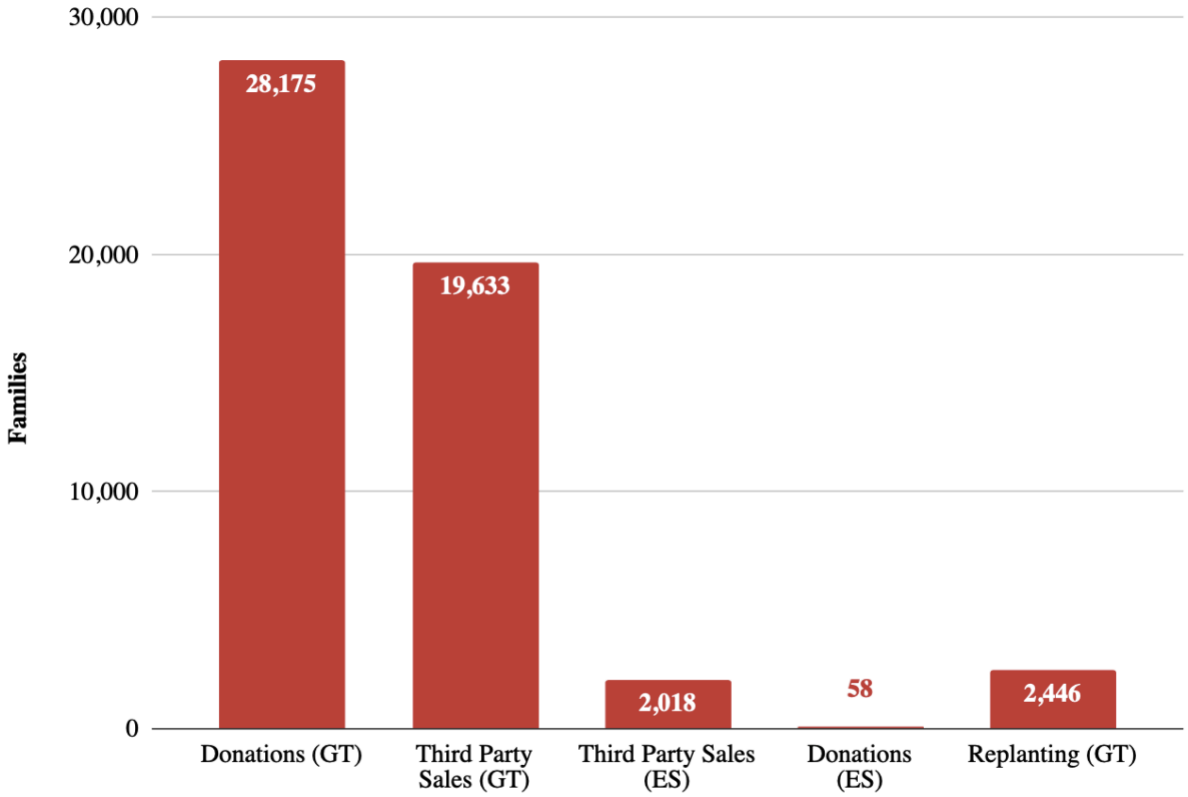

Figure 5: 2025 New Seed biofortified maize planting families by seed source

Number of Farmers

We reached 52,331 farmers, 69% more than in 2024. This was less than we'd expected, but was largely due to farmers purchasing 49% more seed on average

- Farmers receiving seed through donation programs was the largest source of farmers in 2025. These farmers on average planted 0.4 hectares, similar to previous years.
- The number of purchasing farmers in Guatemala didn't increase nearly as much as we had expected, only increasing from 18,092 in 2024 to 19,633 in 2025 (an 8.3% increase). While seed sales increased by 55% in total volume, farmers on average purchased and planted 49% more each.
- In 2024, 1,550 farmers received donated seed in El Salvador. In 2025, 2,018 Salvadoran farmers purchased subsidized seed, and 58 farmers received donated seed.
- 8% of farmers reported saving seed from the 2023 or 2024 seasons and replanting it in 2025, down from 11% in 2024.

Livelihood Impacts

Farmers who purchased biofortified seed in Guatemala increased their profits by $227 (a 95% increase), compared to $191 (+108%) in 2024

Although the percent increase in purchasing farmer profits this year was similar to 2024, we are happy with the results this year for several reasons:

- Purchasing farmers planted 74% more land with biofortified maize than in 2024.
- 71% of purchasing farmers were non-hybrid farmers who normally use heirloom seeds, which have lower yields than our biofortified seeds. These non-hybrid farmers improved their profits by $294 (85%) on average. Between 2020-2024, we rarely reached above 20% non-hybrid customers. Getting so many of our customers from this group, especially as average purchasing size and repeat purchases increased, is one of our biggest successes of the year.
- This year showed lower yields across all farmer segments in 2025 vs. 2024, likely primarily attributable to heavy rains and droughts. In adverse conditions, our seeds maintained performance even better than farmers' normal seeds.
- It's important to note, as the data shows below, that most farmers lost money on their harvest in 2025, but the losses for low-income farmers using biofortified seeds were far lower.

Farmers receiving free seed increased profit by $101 (59%), compared to $140 (125%) in 2024

Although the increase in yield among donation farmers was similar in 2025 and 2024 (~24% higher), estimated differences in farmer costs across years led to a smaller increase in farmer profits this year.

Table 7: Average profit earned from the production of biofortified vs conventional maize in Guatemala, $/farmer

Seed source and segment	F5/F7	Control	Difference	Percent difference
Purchasing: Non-hybrid (71%)	-$37	-$330	$294	89%
Purchasing: Low-segment (3%)	-$843	-$1,213	$371	31%
Purchasing: Mid-segment (6%)	-$84	-$84	$0	0%
Purchasing: High-segment (19%)	$235	$206	$29	14%
Purchasing: Weighted average	**-$11**	**-$239**	**$227**	**95%**
Donation	-$69	-$170	$145	76%
Overall weighted average	**-$45**	**-$190**	**$145**	**76%**

Table 8: Average yield of biofortified vs conventional maize seed grown side-by-side in Guatemala, mt/hectare

Seed source and segment	F5/F7	Control	Difference	Percent difference	P value
Purchasing: Non-hybrid (71%)	3.7	2.9	0.8	27.6%	0.000
Purchasing: Low-segment (3%)	3.5	2.9	0.5	17.2%	0.080
Purchasing: Mid-segment (6%)	3.1	3.2	-0.1	-3.1%	0.770
Purchasing: High-segment (19%)	3.9	4.1	-0.2	-4.9%	0.430
Purchasing: Weighted average	**3.7**	**3.2**	**0.5**	**15.6%**	
Donation	3.1	2.5	0.6	24.0%	0.000
Overall weighted average	**3.3**	**2.7**	**0.6**	**22.2%**	

In El Salvador, farmers increased their profits by $109 (11%) on average

In El Salvador, the majority (72%) of farmers who planted biofortified maize in 2025 were mid-segment farmers. We estimate that these farmers had 9.5% higher yield per hectare and earned an extra $245 (32%) in profits because they planted biofortified maize this year. Non-hybrid farmers also benefited from higher yields (14.5%) and profits ($427, or 35%), while high-segment farmers had lower yields and, as a result, had ~30% lower average profits.

Table 9: Average yield of biofortified vs conventional maize seed grown side-by-side in El Salvador, mt/hectare

Seed source and segment	F5	Control	Difference	Percent difference	P-value
Non-hybrid (9%)	6.3	5.5	0.8	14.5%	0.082
Low-segment (0%)	N/A	N/A	N/A	N/A	N/A
Mid-segment (72%)	4.6	4.2	0.4	9.5%	0.004
High-segment (19%)	5.5	6.7	-1.2	-17.8%	0.008
Weighted average	**5.0**	**4.8**	**0.1**	**2.7%**	

Table 10: Average profit earned from the production of biofortified vs conventional maize in El Salvador, $/farmer

Seed source and segment	F5	Control	Difference	Percent difference
Non-hybrid (9%)	$1,630	$1,204	$427	35%
Low-segment (0%)	N/A	N/A	N/A	N/A
Mid-segment (72%)	$1,008	$763	$245	32%
High-segment (19%)	$1,321	$1,859	-$538	-29%
Weighted average	**$1,124**	**$1,015**	**$109**	**11%**

Our farmers produced 95,027 mt of biofortified maize, enough to cover the annual consumption of 1.15M people in Guatemala and El Salvador

Farmers in Guatemala and El Salvador produced over 95,000 metric tons (mt) of biofortified maize in 2025. We estimate that this is enough to cover the annual maize consumption of nearly 1.15 million people.

Table 11: Biofortified maize production

	Land planted in biofortified maize (ha)	Total production (mt)	Annual maize consumption covered (people)
Guatemala	26,637	87,902	1,063,541
El Salvador	1,438	7,126	86,214
Total	28,075	95,027	1,149,755

Climate Resilience

Farmers using F5 in droughts gained $274/hectare in additional profit compared to $166/hectare additional profit for F5 farmers under all weather conditions

Among our side-by-side monitoring parcel farmers who experienced drought (defined as experiencing 14 or more consecutive dry days during the growing season), the average yield from F5 was 20% higher than the control variety (see the *Climate* tab, here). This difference is 71% higher than the average yield differential under all weather conditions, pointing to F5's resilience to prolonged dry conditions.

Relative to all weather conditions, the estimated average difference in farmers' profits was also 66% higher among the subset of monitoring parcels that experience drought conditions (an average of $274 additional profit per hectare under drought conditions vs $166 per hectare in all weather conditions).

Our third generation biofortified seeds are even higher yielding and more climate resilient

This year, purchasing farmers who participated in our side-by-side monitoring parcels in Guatemala planted F5 and their typical conventional seed as well as two next-generation seeds: F5b and F9 (donation farmers planted only F5 and a conventional variety). All four seeds were planted side-by-side by the same farmer using the same agronomic management practices. The overall performance and climate resilience of these new biofortified seeds show even more promise than F5.

Under all weather conditions and across seed segments, the average yields of F5b and F9 were 77% and 70% higher than the control seed, respectively (vs 26% for F5). Correspondingly, estimated additional profit for farmers planting F5b and F9 was also higher at ~$400/hectare, an ~85% increase (vs $171/hectare, or 36%, for F5). Under drought conditions, the bump in yield relative to conventional varieties was 25% and 30% for F5b and F9, respectively, compared to 17% for F5. Again, this resulted in larger relative gains in farmer profits ($418 or 57% and $489 or 67% in additional profit per hectare for F5b and F9, respectively, and $294 or 40% for F5). F5b and F9 also performed well under excessive rain conditions (defined as experiencing seven or more days of heavy rains during the growing season), with average differences in yield compared to control seeds around twice as high as F5 and average differences in profit per hectare more than twice that of F5.

Nutrition

Lab analysis of our farmers' maize samples show lower levels of zinc, iron, lysine, and tryptophan than we expected, and less than what our previous R&D plots have shown. We're currently investigating possible causes

Our most worrying result this year was lower than expected zinc, iron, and protein quality in the maize grown in our monitoring parcels as compared to controls. While the biofortified seed tested in our more controlled R&D field trials showed zinc, iron, and protein quality at levels consistent with our historical performance, levels were lower in farmers' fields.

Table 12: Additional nutrition vs. control (%)

	2025			2024
	Guatemala	El Salvador	R&D trials	R&D trials
Zinc	22%	22%	32%	53%
Iron	8%	11%	24%	29%
Lysine (as a % of protein)	29%	42%	34%	47%
Tryptophan (as a % of protein)	18%	26%	32%	20%

There are several potential causes. Contamination in parental seed may have led to commercial production with lower nutritional quality. There may have been an error collecting, handling, or shipping samples. These results were only recently made available, and understanding and remedying this problem will be one of our top priorities for early 2026.

A new version of our ex-ante model will launch in March 2026
In 2019, we launched an ex-ante model that predicted how farmer adoption of our maize would decrease zinc inadequacy in Guatemala. We followed this with the launch of an ex-ante model in 2024 that predicted how farmer adoption could lead to decreases in stunting in Guatemala. With support from the USAID-DIV and then the PRO project, we are close to completing an ex-ante model with the data science consultants Azahar and the Fundación Iberoamericana de Nutrición (FINUT) to model the impacts of biofortification on stunting, the zinc, iron, and protein adequacy of diets, farmer profit, and Guatemalan national food sovereignty. The model, which is based on recent government data sets, an improved methodology, an upgraded user interface, two predictive models for stunting, and extensive methodological documentation, will be made publicly available by the second quarter of 2026.

Our bioavailability RCT will have final results in March 2026
We received funding from GiveWell for University of Colorado Denver to finish data analysis and write up the results of our iron and zinc bioavailability study for publication. Led by Dr. Nancy Krebs at University of Colorado Denver, the randomized controlled trial was designed to assess whether consumption of nixtamalized biofortified maize (the maize preparation used to make tortillas) increases dietary intake and absorption of zinc and iron among Guatemalan children compared to traditional maize. Sample analysis will be completed by the end of March, and a paper submitted for peer-review by the end of April of this year.

Our biomarker RCT will be submitted for publication in April 2026
Led by Dr. Elad Tako at Cornell University, a publication presenting results of an RCT designed to assess the impact of biofortified maize consumption on the zinc status and gut microbiome of mothers and young children will be submitted for publication shortly. An abstract with a subset of preliminary results is available here.

Initial results from the subsidy design pilot RCT we completed with the Paris School of Economics showed a modest impact of vouchers and incentives to agrodealers
A working paper summarizing findings from the subsidy design pilot RCT conducted in collaboration with the Paris School of Economics in 2023 is available here. Results from the pilot suggest demand-side subsidies (in the form of maize seed discount vouchers) can be an effective strategy for encouraging farmers to try biofortified seeds, which may lead to longer-term demand, though receiving a voucher to purchase seeds well under the current market price for biofortified seeds generated only a modest increase in farmers' intent to purchase biofortified seeds the next year. On the other hand, results suggest that farmer exposure to a supply-side intervention (increased agrodealers' incentives) did not significantly change adoption rates, though this result should be interpreted with caution because the sample was underpowered for this comparison.

Funding from the Abdul Latif Jameel Poverty Action Lab (J-PAL) has been secured to conduct a follow-up to the pilot RCT in 2026. Plans for the follow-up are underway to revisit farmers who participated in the original pilot to reassess willingness-to-pay (WTP) for biofortified maize seed two years after their original exposure and one year after WTP was originally assessed. Later in the season, we will also collect maize samples from farmers who purchased biofortified maize via the WTP exercise for nutrient analysis and genotyping. Results from the follow-up study should help us

understand the longer-term impact of the initial demand-side and supply-side strategies on farmer adoption behavior and WTP.

We are finalizing an analysis of our seeds' climate resilience based on 2022-2024 data from monitoring parcels

We have been working with Dr. Jessica Rudder, formerly at University of Chicago's Development Innovation Lab and now at Oregon State University, to finalize an analysis that uses 2022-2024 data from our monitoring parcels, matched with satellite weather data via the GPS location of farmers' plots, to assess the climate resilience of our biofortified maize seeds. Initial results, summarized in this brief, show that when farmers who typically plant non-hybrid or low-segment hybrid seed instead plant biofortified maize, they experience less lodging, higher yields, and higher profits. These differences are statistically significant even when farmers experience drought or high winds during maize production, suggesting that our biofortified maize seeds help protect farmers against losses during these climate events.

Data and Methodologies

We are sacrificing a small amount of fidelity in our sample for purchasing farmers in order to get far better data on the potential of new seeds we have to launch

We used two different strategies for our monitoring parcels in 2025. Donation farmers and farmers in El Salvador participated in our typical side-by-side monitoring parcels. These farmers were naturally planting biofortified maize alongside a conventional variety, they had side-by-side plots with similar characteristics (slope, soil quality, etc.), and they were willing to apply the same agronomic management practices to both plots. For farmers who typically purchase seed, instead of identifying naturally occurring side-by-side plots, we approached farmers we were familiar with and asked them if they would be willing to be part of our monitoring parcels. We gave willing farmers three biofortified maize seed varieties (F5, which is currently on the market, as well as F5b and F9, two next-generation seeds), and asked them to plant them side by side with the conventional variety they would typically plant. The requirements of similar plot characteristics and a willingness to apply the same agronomic practices on all four plots still applied, but the selection of this sample of farmers was less random, and they were asked to manage four different seeds.

This new approach allowed us to generate early performance data on next-generation biofortified seeds and to compare them not only to conventional maize, but also to one another and to the currently marketed biofortified variety, ultimately strengthening our ability to make commercialization decisions based on side-by-side field evidence. At the same time, we recognize important tradeoffs. Because purchasing farmers were selected based on familiarity and willingness to test new varieties and they received seed at no cost, the results may not fully reflect typical market adoption conditions (for example, farmers who were willing to participate may be less risk averse or more innovative than the typical farmer). We are trying to find the right balance of better external validity offered by farmers who have naturally planted side-by-side parcels, with the ability to test multiple, new seeds under real-world farmer conditions.

To improve our statistical power, this year we also decided to base our estimates of F5 yield on pooled F5 monitoring parcel data from 2024 and 2025. And because we did not have any F7 monitoring parcels in 2025, we based our F7 yield estimates on our 2024 F7 monitoring parcel data.

New systems are allowing us to significantly decrease errors and improve efficiency
The M&E department also focused on implementing systems to improve data quality and ensure replicability. First, we transitioned to electronic data collection for our monitoring parcels, which has allowed us to implement real-time data quality control checks and to review data significantly faster. We also implemented a standardized, code-based system to flag incoming data for inconsistencies, which we can verify and rectify by rechecking collection forms, calling farmers, and revisiting farms when needed to retake measurements. Finally, all of our data analysis and the export of results to dashboards and spreadsheets is now fully code-based, ensuring that every estimate can be systematically reproduced and independently verified.

During this process, we identified errors in the 2024 code in converting costs, revenue, and profit from per manzana (Guatemala's standard land unit) to per hectare and yields from per manzana to per hectare. This error resulted in a very large underestimation of the average increase in farmer profits (from the $86 in additional profit we originally reported to $176 as corrected) and the overall farmer economic impact (from $2.2M to $4.5M). We have corrected this error and will update the 2024 figures on our website, etc. accordingly.

We're making all of our data public, starting with a detailed evaluation of our impact in 2025
This year, we are making the output documents that contain all of our 2025 impact estimates publicly available. The Guatemala output document is available here, and a description of what is included on each tab of the output document is here. The El Salvador output document is here, with a description available here. If and when changes to the 2025 output documents are necessary to correct errors, add new statistics, etc., we will document those changes in the *Change log* tab of the output document. We are aiming to make all of the M&E data we collected in 2025 plus code and protocols publicly available on the Harvard Dataverse in early 2026.

In our first internal GiveWell style cost-effectiveness analysis, we estimate our 2024 impact at 20x cash transfers; GiveWell estimated 3-8x
Based on the previous version of our ex-ante model, we developed an internal cost-effectiveness analysis (CEA) that places our impact at 20x as cost-effective as a cash transfer. A preliminary analysis by GiveWell estimates that our program in 2024 was 3–8× as cost-effective as cash transfers, with the potential for cost-effectiveness to increase as costs fall due to economies of scale. We plan to leverage both the new version of the ex-ante model as well as new experience in cost-effectiveness analysis on the team to build an updated internal CEA in 2026.

FUNDING, FINANCIALS, PEOPLE

Summary

- The closure of USAID cut $3.6M of funding out of a total $6.6M planned budget, but our partners helped us close the gap by May.
- We received $11.1M in total funding, but most was one-time and we have to focus more on fundraising going forward.
- Our 2025 expenses totaled $6.04M, lower than our original budget of $6.6M but higher than the emergency budget we imposed on ourselves after the USAID cuts.
- Our 2026 budget is 42% larger than 2025 expenses, with most increases being direct costs of our goal to double the number of farmers reached (subsidies and seed production) and the expansion of our gene editing program.
- Our annual audit is currently underway, with expected completion by April 2026.
- Turnover was high: we hired 20 staff in 2025, while 19 departed–7 due to USAID-related reductions, 8 for performance or personal reasons, and the rest through resignation or contract completion.
- Our *Great Place to Work*-based survey on organizational health showed significant improvements from 2024; employee pride rated 97%.
- We had rotation in three key positions on our leadership team: one member left after eight years, another became a vice minister in the Guatemalan government, and the last due to an experimental role that didn't work out.

The closure of USAID cut $3.6M of funding out of a total $6.6M planned budget, but our partners helped us close the gap by May

We started 2025 with a major blow. Of our $6.6M budget, $3.6M was originally planned from USAID; roughly half from funding that was supposed to be distributed in 2024 and hadn't been, with the other half expected in 2025. Within a week, we laid off 1/6 of the organization, closed RCTs and country expansions, and aggressively focused on fundraising. Rippleworks gave us $3.1M total in emergency funding, Project Resource Optimization granted $695k, Risk Pool Fund contributed $49.5k, and both Cartier and Pilot House forwarded us the next tranches of our grants early, both in the amount of $200k. Due to the timely response of these partners, we hired back key staff and continued operations as originally planned. We are grateful for the strong vote of confidence during such a difficult year.

We received $11.1M in total funding, but most was one-time and we have to focus more on fundraising going forward

For the full year, we brought in approximately US$11.1M. $1,397,762 of this came in from new foundations (Givewell, Livelihood Impact Foundation, Project Resource Optimization, Whole Foods Market Foundation, Harvest+/Cargill, Risk Pool Fund, and Scott Alexander/ACX). $3,500,000 of this came as rescue funds from current partners (Rippleworks, Pilot House, and Cartier). We received $3,002,340 in renewals (Light a Single Candle, Matthew 6:3, Cartier, Mulago, Dovetail, Shockwave, Pulte, Vitol, and CIMMYT). We received $2,342,254 in closeout funds from USAID, $566,231 from individual donors, and $315,645 from sales and interest income. Despite the generous support, our funding situation is much less secure than we'd like it to be. Without risk-adjusted likely renewals, we have a $3.2M shortfall for the year 2026. Including risk-adjusted likely renewals, the shortfall is $1M. Part of this shortfall may be covered by the $1M the Guatemalan government's subsidy program.

Our 2025 expenses totaled $6.04M, lower than our original budget of $6.6M but higher than the emergency budget we imposed on ourselves after the USAID cuts
Total operating expenses came in at US$6.04M, $737K (13.9%) over our updated budget. These costs largely came from $200k in additional parental seed to support increased seed company sales, and $420k covered a purchase of biofortified seed we paid for when the Guatemalan government failed to complete a planned purchase.

Our 2026 budget is 42% larger than 2025 expenses, with most increases being direct costs of our goal to double the number of farmers reached (subsidies and seed production) and the expansion of our gene editing program

Table 13: New Seed Financial History and Projections (US$ 1,000s)

Expenses	2024 Actuals	2025 Actuals	2026 Budget	2027 Projected	2028 Projected
New Seed seed production	645	789	1,301	1,591	1,830
Seed company support	95	170	177	207	238
International expansion	184	316	77	99	114
Promotion, training and sales	848	539	904	1,094	1,258
Subsidy to other seed companies	416	1,114	1,824	2,184	2,511
Seed development	1,134	1,460	2,430	2,585	2,972
Impact evaluation/M&E	718	638	768	910	1,046
Admin and HR	477	515	633	836	961
Development	446	463	417	495	569
Total Expenses	**4,962**	**6,004**	**8,530**	**10,000**	**11,500**

Total projected spending increases from approximately $6.0M in 2025 execution to $8.53M in 2026 (+42%), driven primarily by our goal of expanding from ~50,000 farmers to 100,000 farmers in 2026. We plan to spend:

- $400k more on seed production than 2025, to enable donations to reach a total of 50,000 farmers this year, either through sales to the Guatemalan government or donations through Guatemalan government partners.
- $910k more on the subsidy programs in Guatemala and El Salvador, which we hope to offset with the $1M allocated to the program in the Guatemalan national budget.
- $700k for our gene editing program with CIMMYT.

Our annual audit is currently underway, with expected completion by April 2026
Our FY 2025 audit is being conducted by Garcia Monroy under US-GAAP for nonprofits. It covers two periods– January–September and October–December 2025. Fieldwork on the final quarter begins the third week of February 2026, with final statements and a management letter to follow.

Turnover was high: we hired 20 staff in 2025, while 19 departed–7 due to USAID-related reductions, 8 for performance or personal reasons, and the rest through resignation or contract completion

As of this report, we have 55 staff members and 6 contractors. We also have 12 positions currently vacant. In 2025, we hired 20 people across the organization. 18 are still with us. We added staff in Operations (8), Leadership (3), R&D (3), FAHR (2), M&E (1), and Policy (1). Throughout the year, we lost 19 employees. Of those, 15 were let go, 3 resigned to pursue other opportunities, and 1 finalized their contract. Of the 15 individuals we let go, 7 were due to the staffing reductions we made after USAID (2 of which we were able to re-hire after funding stabilized) and 8 were let go due to performance or personal reasons.

Our *Great Place to Work*-based survey on organizational health showed significant improvements from 2024; employee pride rated 97%

Each year, we survey our staff using the *Great Place to Work* framework–the same methodology behind the *Fortune 100 Best Companies to Work For* list. The survey measures five dimensions of workplace culture: credibility (do employees trust leadership?), respect (do people feel valued?), fairness (are opportunities and rewards equitable?), pride (do staff feel good about their work?), and camaraderie (do people enjoy working together?). A score of 65% or above earns *Great Place to Work* certification, and companies above 80% are featured on "Best Workplaces" lists.

In our end-of-year 2025 survey, we scored 76% overall; up from 72% at mid-2024. The number that stood out most: 97% of our staff said they feel proud of the work they do, up from 84% eighteen months ago. That puts us alongside the best-regarded employers in the world on that specific measure, and we think it reflects the culture our team has built. Every dimension improved from mid-2024, with the largest gains in credibility, respect, fairness, and pride–each up 13 to 14 percentage points. We attribute those jumps to four things we did better this year: stronger leadership hires who set a different tone from the top; a deliberate push to break down silos through cross-team collaboration; thoughtful mid-year bonuses for all staff below the leadership level that significantly improved fairness metrics; and consistent all-staff meetings to communicate major changes and the reasoning behind them.

Table 14: New Seed "Great Place to Work" Survey Results

Dimension	MID 2024 Avg. favorability %	EOY 2025 Avg. favorability %	Percentage Point Increase
General Satisfaction	72	76	4
Credibility	64	76	13
Respect	60	74	14
Fairness	55	69	14
Pride	84	97	13
Camaraderie	67	76	9

Departures

Rasa Dawson left after about a year as our Chief Strategy and Impact Officer. The role attempted to cover M&E, fundraising, and strategic development, and we underestimated the difficulty of leading all three elements concurrently.

Claudia Valenzuela, our Director of Public Policy and USAID Chief of Party, left after a year with us. She was offered a position as Vice Minister of Development in the Guatemalan government with MIDES. This was a lifelong ambition for her, and we supported her fully.

Maria Cruz, our Director of Finance and Administration, transitioned from her role in October after eight years with us. Maria was here from the beginning of so much important work, including our very first season producing biofortified maize and our first 1,000 farmers. She helped us grow to nearly 60 people and scale our budget from $500k to over $6M. We're grateful for her years of service.

Additions

Katie Adams joined as our Director of Impact and Cost Effectiveness–our first full-time hire focused specifically on nutrition, agricultural economics, and cost-effectiveness of biofortification. She was at UC Davis before this, leading research on the impacts, costs, and cost-effectiveness of nutrition interventions, with a focus on fortification and biofortification.

Esteban Fernandez took over as our new Director of Finance, Administration, and HR (FAHR). He has an MBA from Universidad Galileo, a postgraduate degree in statistics from Universidad San Carlos, and over a decade of experience in finance, operations, and international project management, including five years with USAID Guatemala.

Michael Summers spent ten years on our Board of Directors–five as Vice Chair–and has moved into the role of Chief of Staff. He relocated to Guatemala and is focused on strategy, systems, and day to day operations. He brings a decade of experience in the private sector across engineering, R&D and organizational leadership roles.

These key hires taught us some valuable lessons. Hiring for cultural fit, especially at the top, is immensely important. We made this a primary hiring criteria when assessing candidates, and it has paid off in the way our leadership works together and how our teams operate. We think this was one of the main drivers for the increases in employee satisfaction. We also redesigned our standard hiring process to include scoped consultancies prior to the final offer. This has allowed us to see how the candidate works, interacts, and also allows them to self-select out if New Seed is not a good fit for them.

Our plans to grow in 2026 include hiring a Chief Scientific Officer to run our R&D department and help us figure out some ambitious plans we have in crop genetics, and hiring an Africa lead to build out our plans in East Africa.

ANNEX

Table A1: Past and projected sales of biofortified seed (20 kg bags)

	20 Kg bags sold by	2021	2022	2023	2024	2025 (goal)	2025 (actuals)	2026
GT	**New Seed**	**3,637**	**5,213**	**5,688**	**5,000**	**7,910**	**6,085**	**0**
	Other seed growers (GT)	**1,129**	**2,005**	**1,906**	**3,594**	**8,752**	**7,209**	**22,300**
	Fortaleza/Agropro	0	0	0	0	0	0	8,200
	Valle Verde	1,129	2,005	1,627	2,498	4,350	2,711	6,000
	Agropher	0	0	0	663	3,054	3,778	6,800
	Semillas Morales	0	0	0	0	539	364	900
	Others (9)	0	0	279	433	809	356	400
ES	**Other seed growers (ES)**	**0**	**0**	**0**	**0**	**1,540**	**1,007**	**2,500**
	Semillas El Progreso	0	0	0	0	385	262	770
	Semillas M&M	0	0	0	0	770	264	0
	Agrícola Los Blancos	0	0	0	0	385	361	1,153
	CENTA	0	0	0	0	0	120	385
	Others (3)	0	0	0	0	0	0	192
	TOTAL	**4,766**	**7,218**	**7,594**	**8,594**	**18,202**	**14,301**	**24,800**

Table A2: Seed Production (Planned vs. Actual), Guatemala, 2025

Producer (Seed)	ha	Planned yield (mt/ha)	Actual yield (mt/ha)	Loss	Preventable with existing recommendations (% of loss attributable)	Preventable with additional recommendations (% of loss attributable)	Unpreventable (% of loss attributable)
New Seed 2025 Total	147.08	2.17	1.98	9%			
New Seed 2024 dry season (F5 - 9 sites)	18.90	2.80	1.26	55%	- Plant density (6%) - Synchronization of flowering (6%)	- Spiroplasma (40%) - Other diseases/pests (9%)	Temperatures & Pollen viability (39%)
New Seed 2025 dry season *(F5 - 39 sites)*	131.33	2.20	1.89	14%	- Inefficient irrigation management (20%) - Planting after optimal time window, mid-October to mid-December (25%) - Lack of solid commitment from new growers during crop management (25%)	- Inadequate infrastructure for seed drying (10%)	- Planting delays due to heavy rains (15%) - Harvest delays due to heavy rains (5%)
New Seed 2024 dry season (F7 - 30 sites)	53.90	2.31	1.82	21%	- Plant density (10%) - Synchronization of flowering (18%)	-Spiroplasma (12%) -Other diseases/pests (18%)	- Planting delays due to heavy rains (42%)
New Seed 2025 dry season *(F7 - 8 sites)*	15.75	1.94	2.70	-39%	NA	NA	NA
Third Party 2025 Total	96.25	2.20	1.35	39%			
Valle Verde 2024 dry season (F5)	10.50	2.80	1.65	41%	- Plant density (10%) - Synchronization of flowering (5%) - Fertilization (20%)	-Spiroplasma (33%) -Other diseases/pests (5%)	- Planting delays due to heavy rains (27%)

Valle Verde 2025 dry season (F5)	21.00	2.20	2.01	9%	- Low fertilizer application (100%)	NA	NA
Valle Verde 2024 rainy season (F5)	21.00	1.71	1.60	9%	- Low fertilizer application (100%)	NA	NA
Valle Verde 2025 rainy season (F9)	24.50	2.20	0.49	78%	- Planting after recommended date (40%) - Low fertilizer application (20%)	- Improper male, female planting day splits (40%)	NA
Agropher 2024 dry season (F7)	2.80	2.31	1.93	16%	- Plant density (5%) - Synchronization of flowering (23%) - Fertilization (5%)	-Spiroplasma (5%) -Other diseases/pests (12%)	- Planting delays due to heavy rains (50%)
Agropher 2025 dry season (F5)	17.85	2.20	1.55	30%	- Low fertilizer application (20%) - Inefficient irrigation management (15%) - Pest pressure/Armyworm (30%)	NA	- Planting delays due to heavy rains (15%)
Agropher 2024 rainy season (F5)	6.30	1.71	1.20	27%	Tar spot infections (*Rhytisma acerinum*) (20%)	- Tar spot infections (*Rhytisma acerinum*) (10%) - Inadequate of infrastructure for seed drying (35%) - High humidity & pollen viability (15%)	- Harvest delays due to heavy rains (20%)
Agropher 2025 rainy season (F5)	32.90	1.71	1.46	15%	- Low fertilizer application (20%) - Inadequate infrastructure for seed drying (30%) - Pest pressure/Armyworm (30%)	NA	- Harvest delays due to heavy rains (20%)
TOTAL 2025	243.33	2.18	1.83	16%			

Table A3: Seed Production (Planned vs. Actual), El Salvador, 2025

Producer (Seed)	ha	Planned yield (mt/ha)	Actual yield (mt/ha)	Loss	Preventable with existing recommendations (% of loss attributable)	Preventable with additional recommendations (% of loss attributable)	Unpreventable (% of loss attributable)
El Salvador BioFortic 2025 Total	17.5	2.20	1.15	47.73%			
Semillas El Progreso	3.5	2.20	1.5	31.95%	- Poor flowering synchronization due to 4 -4 - 0 split (80%)		- High temperatures & pollen viability (20%)
Semillas M&M	7.0	2.20	0.75	65.71%	- Poor flowering synchronization due to 4 -4 - 0 split (60%)	- Inefficient water management (20%)	- High temperatures & pollen viability (20%)
Agricola Los Blancos	3.5	2.20	2.06	6.49%	- Used 6 - 4 - 0 split and had small losses		
CENTA	3.5	2.20	0.69	68.83%	- Poor flowering synchronization due to 4 -4 - 0 split (60%)		- Partial field loss due to flooding during initial crop stage (20%) - High temperatures & pollen viability (20%)