MAINE GRAIN ALLIANCE SEED RESTORATION PROJECT



ANNUAL REPORT FOR 2020 At the beginning of the spring planting season in 2020, there were already a substantial number of winter grains that had been planted in the fall of 2019 and were beginning to take off. An eighth of an acre of hull-less emmer that had been developed by Richard Roberts had been planted the previous fall as well as some banatka hard winter wheat, poltavka hard winter wheat, some einkorn that had been sourced from Daniel Des Rosiers, some einkorn sourced from Henry Bieler and a small amount of Goldblume hard winter wheat sourced from Dennis Christensen in Denmark.



Over the winter the Maine Grain Alliance sourced six varieties of spring grains from Agrologica, a seed company run by Anders Borgen in Denmark. Four of the grains were hard wheats, one was a spring spelt and one was a barley. We received about 12 Ibs of each of these grains and each variety was divided up into 1.5 pound lots. Seven different farmers were contacted and agreed to plant all six of these varieties at their locations. The sites were chosen at different locations around the state. One location was in Freeport, near the coast; four were in central Maine and two were in Aroostook county in northern Maine. We began by planting at Land Trust Farm owned by Richard Roberts, MGA's Restoration Project director, using two Earthway hand seeders bolted together. It was determined that each 1.5 pound lot would need 50 x 50 feet. We asked each of the other participants to prepare a 50 x 150 foot plot for all six varieties and Richard traveled to five of the six remaining sites and planted all six varieties by hand. As it turned out, the final site in Mapleton was going to host a trial of barley run by the University of Maine. We sent the samples to the University and they were included in their trials along with some spring wheats commonly grown in Maine as comparisons.

The sites varied in preparation. Fertility and weed control became a problem at some of the sites. Six weeks after planting, a foliar spray of seaweed fertilizer from Maine Organics was applied using a backpack sprayer and later each site was weeded using a hand wheel cultivator. In August each site was harvested using MGA's BOAZ mini grain combine and the seeds were cleaned and weighed. The results varied due to site fertility and weed pressure. It was good having the varieties grown in the controlled environment of a University trial for comparison. We plan to replant the seed harvested from these sites with these and additional farmers to determine which varieties do best with the goal of making them available for farmers in the future.



| | AMY | , | DF YEL | 12-16 LOW | D115 PUF | 0 17-16 PLE | ND 2 | 2-16 | SPEL | T | BAB BAR | USHKA LEY |
|--------|-----|---|-----------|--------------|-------------|----------------|------|------|-------------|---|------------|--------------|
| BUCK | | | | | | | | | | | | |
| LT45 | 4lb | | ЗIb | 8oz | ЗIb | 4oz | ЗIb | 3oz | 5lb 13oz | | 1lb | 10oz |
| HILTON | 5 | 2 | 1 | 4 | 1 | 14 | 2 | 3 | 1 | 8 | | 5 |
| BURR | | 9 | | | | 5 | | 4 | 1 | 3 | | |
| FREPRT | | | | | | | | | 1 | 8 | | |
| RR | 6 | 2 | 2 | 3 | 3 | 6 | 8 | 3 | 2 | 1 | 3 | |
| AURORA | | | 2 | | 2 | 8 | 4 | 6 | | | | 6 |

The empty spaces in the graph indicate that no grain was harvested, usually due to weed pressure. The amounts for the Buck Farm site will be added in the future.

The following graph shows the yield in pounds per acre from the trials at the Buck Bros Farm conducted by the University of Maine. This chart shows the yields of the 4 Danish wheat varieties compared to the yield of 2 varieties of wheat commonly grown here in Maine.





In addition to the Denmark varieties and the winter grains, a number of other small plots of spring grains were planted at Land Trust Farm. These varieties are part of the ongoing grow out program of the MGA: Small plots of Arentes, a spring rye; some Italian Duram; some Bere, a Scottish malting barley, and 4 varieties of spring planted Einkorn and a spring planting of emmer. In addition small plots of an Italian barley and some Dalar, a Swedish spring wheat as well as a handful of Zanduri, an ancient wheat. 2020 was a good year for these varieties and we hope to replant and increase our yield again in 2021.





MGA also had a demonstration plot at Maine Wood Heat in Skowhegan. Maine Wood Heat has provided a space in the front of their factory for a number of years and this year we planted some spring wheat, barley, oats, emmer, einkorn and buckwheat. We also had a small planting of flint corn. There was significant weed pressure at this site this year and we may plant the demonstration plot into field peas this coming year as a cover crop to smother the weeds. MGA also partnered with the Old Canada Road Association to plow up two ¼ acre demonstration plots at their scenic overlook on Rt 201 on the Madison/Solon town line. The plots were plowed and disked, limed and then later planted with a cover crop of winter rye.



We plan to plant some grains there this coming spring. We are also working with Maine Organics, the seaweed fertilizer company on this site. They are very interested in helping us with these demonstration plots and plan to supply us with their foliar spray fertilizer for trials. We also worked with Herron Breen from FEDCO on our Byron flint corn grow out program. Herron started about 1200 plants from seeds provided by Albie Barden. These seedlings were planted at a field provided by Richard Searls in Solon, ME. MGA split the cost of pelletized chicken manure which was applied at the site and a number of our board members came and planted about 750 of the seedlings there. Herron also planted some winter squash there as well for a seed crop. This corn did very well because the site is bottom land on the Kennebec River and has adequate moisture. A large amount was harvested and is now drying on the cob. Some of the seed will be returned to Albie Barden and the rest will be made available for growers. Some of the remaining plants were planted at Taylor Field in Skowhegan but did not do well as that site was too dry. Some of the remaining seedlings were given to the Anton Farm in Solon and they report that they have enough seed to plant 4 acres in 2021 and are looking for additional seed to plant.



In the fall of 2020, MGA was in contact with Sylvia Davitz, a seed saver in Vermont and owner of Solstice Seeds. Sylvia grows over a hundred varieties of grains but has a limited area for expansion. She provided us with 15 different varieties of winter wheat and spelt that she felt were most suited for here in New England and hoped we could try to grow them out. They were planted at the Land Trust Farm. In addition, we exchanged seeds with Don Lewis from Wild Hive Farm in New York state and with Nate Prill, a researcher with the University of Michigan. We sent them seed for hard winter wheat varieties and they each sent us winter soft white wheat seeds which are now planted. We are also sending some of our hull-less emmer seed to Cornell for their research. In addition we have planted more of our hull-less emmer, some Banatka, some Poltavka and some Goldblume winter wheat. All of our winter grains came up well in the fall and we are hoping for a successful wintering over.



| Fall planted in 2019 | Spring planted in 2020 | Fall planted in 2020 for 2021 season | Varieties from Sylvia Davatz planted fall 2020 for 2021 |
|----------------------|-----------------------------|---|---|
| Emmer/ rye cross | Danish varieties | Emmer/rye cross | Ble de Crepi hard wheat |
| Banatka hard wheat | Yellow hard spring wheat | Banatka hard | Touzelle Anone hard |
| Poltavka hard | Purple hard | Poltavka hard | Steppenweizen Derenb hard |
| Goldblume hard | Amy hard | Goldblurn hard | Breisgauer Begrannter hard |
| Einkorn (DdR) | ND hard | Harris soft wheat | Unterengadin hard |
| Einkorn (H B) | Babuska barley | Frederic soft | Automne Rouge Barbu hard |
| | Spelt | | Ethiopian Purple hard |
| | | | Maris Wigeon hard |
| | Arentes spring rye | | Prochaskas Brauner hard |
| | Duram | | Rouge de Ecosse hard |
| | Bere barley | | Bartweizen hard |
| | Emmer | | Sipbachzeller hard |
| | Hull less oats | | Macha spelt |
| | Alpine einkorn | | Guggisberg spelt |
| | KUSA einkorn | | Altgold spelt |
| | Black einkorn | | |
| | Zanduri hard wheat | | |
| | Italian barley | | |
| | Dalar hard wheat | | |
| | Byron Flint Corn | | |



The Seed Restoration Program purchased a backpack sprayer for applying foliar spray and also a small gasoline engine powered grain thresher. Both of these pieces of equipment are available for members to use. We also hope to be able to provide soil amendments for our Denmark grain growing team.



Growers in 2020 Denmark grain program

Growers in the Denmark Seed Program

Aurora Mills and Farm Linneus, ME 04730

Buck Bros Farm Mapleton, ME 04757

Hilton Family Farm Madison, ME 04950

Blue Ribbon Farm Mercer, ME 04957 Dale Inman Freeport, ME 04032

Rusted Rooster Farm Parkman, ME 04443

Land Trust 45 Farm Solon, ME 04979

Richard Roberts Heritage Seed Restoration Project