Researchers Talk Reviving Small Grains in the Hudson Valley

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Red Hook, New York June 23, 2014- About 70 people gathered for a small grains field day sponsored by Cornell Cooperative extension of Ulster County, and other organizations. The two-part event began at Migliorelli Farm, where Cornell had planted trial plots of malting barleys, hybrid ryes and heritage grains.

“Two hundred years ago the Hudson Valley was a breadbasket. As we are reinventing a small grains economy in this area, we want people to know what they're getting into,” said Justin O’Dea from CCE, thanking Glenn Roberts, who was in attendance, for largely funding the heritage grain trials. Roberts is the founder of Anson Mills, a South Carolina grains company with a mission to restore production of heritage and landrace seed varieties.

Ulster County CCE is investigating how farmers can again grow grains in the region. Several handouts were available on malting barley, grain growing, pest identification, and resources on equipment and methods. O’Dea noted that chef Dan Barber's recent op-ed piece in the New York Times, the NYS Farm Brewery Law, and Greenmarket's requirement that bakers use regional flour were amplifying interest in production.

Ken Migliorelli, who manages about 1000 acres in the Valley, 400 of them in vegetables, spoke about his experiences planting grains for food over the last 5 years.

“I always planted a green manure, but I’ve been trying to make some money on the cover crop. I’ve had a hard time getting DON levels below 1 ppm,” he said.

Mark Sorrells, small grains breeder at Cornell University spoke about the collaboration happening in the region. He explained the challenges growers face. For instance, switching from producing feed grade barley to malting barley isn’t simple. You have to choose the best variety, keep nitrogen rates low, and harvest ahead of time to prevent deterioration of the seed.

"You can't just plant it and forget it," Sorrells said.

The plots edged the road, and beyond the ripening grains, people

worked Migliorelli's vegetable fields. Sorrells led people through the trials. People had sheets that listed the varieties planted.

"We worked closely with Greenmarket Regional Grain Project's June Russell as we selected the varieties," Sorrells said, noting that organic oriented organizations like NOFA-NY and OGRIN, the Organic Research and Information Sharing Network, were other key players in helping orient growers with grains.

Heritage varieties, he explained, are pre-1950 or 1960; grains bred afterwards are considered modern and generally contain dwarfing genes to produce shorter stalks. Heritage and landrace varieties of grains tend to be very tall and don't tolerate much fertilization, which will make them lodge in the field. One hope is to identify varieties that do well in the climate and soils, and, because of their height, compete well against weeds.

"This time next year we hope to have information on varieties that do well in organic or conventional systems," said Sorrells.

The trial plots also had malting barley varieties and hybrid ryes. This was one of 4 locations in the state for winter grain trials.

Some of these seeds are from KWS, a German seed company that is just starting its U.S. cereal breeding program.

"Some of these varieties are well established in the world but not here," said Ken Davis, KWS product manager. "We are familiar with the milling, baking and feed industries. We're just starting with distilling. We want to make sure there's ample supply of seed."

The company has a long history of research on grains, Sorrells said, and the hybrid ryes are yielding out of this world.

Ken Wise, also from CCE and the state's IPM program, spoke about identifying and managing pests in grains.

"I have not seen Hessian fly in New York since I've began monitoring in 1999, but I expect we're going to see it the more grains are planted here," he said. The Hessian fly decimated grain crops in the state 200 years ago. "There is no recommended insecticide for it, but there is some variety resistance."

He covered the concept of the Hessian Fly Free Date, which means fall

planting after the date in your region the pest will not be able to set on the growing plants. This date will also protect against aphids that need greenery for overwintering.

Wise also mentioned beneficial insects that can help control pests.

Gary Bergstrom, from Cornell's Department of Plant Pathology, spoke next.

"Sometimes I'm pegged as the doom and gloom guy, but I'm really optimistic that we can best the pests and diseases," he said.

Fusarium, the fungal infection that creates vomitoxin in small grains, he explained, is one of the biggest challenges faced in the humid environment of the Northeast. Leaf wetness for 12-24 hours as cereals are starting to flower can invite infection; there is a fusarium risk prediction map for Fusarium based on weather conditions before flowering (www.wheatscab.psu.edu). No tilling into stubble of a previous cereal crop, including corn, is a bad idea for wheat, barley or rye, as the fusarium can overwinter in corn and other cereal stalks.

"Rotations and other cultural practices, and variety selection can offer some control against fusarium," he said. Fungicides applied at onset of flowering can offer additional control in conventional systems, but there is no effective spray option for organic crops. However, milling can reduce DON levels – the measurement for vomitoxin in a grain – from 2 ppm to the USDA accepted 1 ppm in a food product. Another tool is grain cleaning. Scouting fields during the soft dough stage to identify infected areas is important, so during harvest of those areas, you can set the combine fans high and blow out the small scabby kernels. This will reduce the toxin levels.

As people left the farm to go to the next location, the apparent demand for regional grains became obvious. Dan Preston from Widow Jane Distilling announced he was looking for 2000 acres of corn and 1000 acres of rye.

The second part of the program began with lunch under a tent at the Hudson Valley Farm Hub. Jerry Cosgrove, associate director of the New World Foundation's Local Economies Project (LEP), welcomed people to the first official event of the Farm Hub project.

"This is a research and training center for the Hudson Valley and eventually for the Northeast, and the nation," said Cosgrove. The

group purchased the Gill Farm last year.

“My family started farming here in 1937 and we had no successor, but this opportunity came along,” said John Gill, who manages the research farm. “We had grown 1200 acres sweet corn and 60 acres vegetables.”

The farm is transitioning to different experiments on nursery and field crops, in organic and conventional production.

Sarah Brannen from the LEP passed out plot maps detailing planned rotations for the next five years in 20-30 varieties of grains. As types of grains are grown to market scale, market partners will be evaluating how these types perform.

“The purpose of this project is education and demonstration,” said Brannen. “We’re doing this as a tool to mitigate the risk for farmers who can’t take the risk on their own.”

To close the day, Elizabeth Dyck from OGRIN and Robert Perry from NOFA-NY gave an equipment demonstration and talk on harvest and post-harvest handling of grains.

“Small grains are not like corn, not like soybeans,” she said. “They have got to be picked and harvested at just the right time.”