



# Participatory Plant Breeding

## June 2014 Newsletter

I hope that this summer finds you well and excited about another season of on-farm plant breeding! There are many farmers involved in the on-farm plant breeding project and it has been great getting to know some of them. We look forward to meeting with everyone in the years to come.

In this newsletter we would like to give an update on the activities of the PPB project, a list of upcoming events, and an overview of early season selection in your populations.

### Upcoming Events

#### Ontario:

Laepple Organic Farm Tour

Heritage grains and PPB potato trial

June 25, 1:00 - 4:00 pm, Petersburg, ON

Contact Aabir Dey for more information: [aabir.dey@everdale.org](mailto:aabir.dey@everdale.org)

#### Manitoba:

Organic and Ecological Farming Systems Field Tour

July 22, 6:00 - 8:00 pm, Carman, MB

Contact Joanne Thiessen Martens for more information:

[j\\_thiessen\\_martens@umanitoba.ca](mailto:j_thiessen_martens@umanitoba.ca)

#### Alberta:

Organics in Central Alberta

August 6, Morinville/Westlock, AB

For more information contact Organic Alberta: 1 (855) 521-2400

Organic Oats

August 8, La Crete, AB

For more information contact Organic Alberta: 1 (855) 521-2400



## On-farm breeding

There are currently 44 farmers involved in the on-farm breeding project across Canada growing a total of 74 wheat populations, 68 oat populations and 9 potato populations. The above photos show three wheat populations growing on a farm in Quebec (left) and wheat and oat populations growing on a farm in Manitoba (right).

One of the great things about on-farm plant breeding is that the populations are grown in diverse environments and each farmer is using different selection criteria to make their selections, resulting in populations specifically suited for your environment. Throughout the summer I will be contacting participating farmers to see what criteria they are using to make selections and what their end goals are. In order to improve on this program and make the work truly participatory, I am looking for feedback on choice of parental lines and what plant characteristics to focus on when deciding on which parents to use. I will be sending out information on potential parental lines in the next week.



### **Question from the field: How are early-season selections made in wheat and oat populations?**

Selecting populations that have the ability to compete with weeds is of high importance to many farmers. Traits that contribute to a plant's competitive ability may include seedling ground cover, canopy structure, leaf angle and width, tillering, plant height and root morphology. Early in the season it is difficult to assess individual plants, but differences in vigour, growth habit, and ground cover between populations can be noted. If you are particularly interested in these traits, individual plants that are identified as having good early season vigour could be marked with a flag or a ring around the base of the plant to ensure that selections are made from these plants at harvest. Identifying plants with good characteristics or rouging diseased plants is generally easier once stem elongation occurs.



### **Selections in potatoes**

This spring one potato from each selected hill was cut into four pieces and planted as a unit. Selecting for a competitive potato plant is also a priority for on-farm potato breeders. Since the potatoes are planted as a tuber unit with a space left between each unit early season vigour and growth characteristics can be easily observed. If early season vigour is a priority, it is recommended that farmer breeders mark tuber units with a flag that have good plant characteristics so that they can be observed for other important characteristics throughout the growing season.

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Thank you to all of the farmer-breeders for your hard work and interest in on-farm plant breeding. Please do not hesitate to contact us if you have any questions.

Anne Kirk and Martin Entz

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