

ORAL HISTORY 01-83-05-14

Jennifer H. McBeath

Fairbanks, Alaska

Steve Lay, interviewer

Series: University Focus series

Jennifer McBeath talked about snow mold. She is studying snow mold on winter wheat. She is looking at the pathogen that is causing the disease and the effect on survival and yield of the wheat. She is looking at controls of snow mold. Snow mold is a generic term. It is used to describe any kind of fungi that grows on a plant under the snow. In Alaska it is a different mold than the lower 48 molds.

She talked about long range and short range treatments of the disease. The long-range treatment would be selecting varieties of wheat that are resistant to the disease. It would be simpler, more economical and less polluting of the environment. They have screened many different cultivars and haven't found any varieties that are resistant. This has forced them to treat with chemicals. This has been successful. They have used three different chemicals. One in particular has been promising and increased yield by ten-fold. Untreated wheat results in nine bushels per acre and the treated wheat results in 86 bushels per acre. Average yield in the U.S. is 30 bushels per wheat. Growing winter wheat in Alaska is possible through dry-land farming process.

There is very little wheat growing in Alaska. Dr. McBeath thinks it is because of the uncertainties of yield in the past. People thought the wheat varieties were not hardy enough for Alaska winters. Dr. McBeath said the variety is usually quite hardy. She said there was sufficient snow cover for the wheat. She said she found several varieties of snow mold on the winter wheat. Canada and Scandinavian countries grow wheat successfully. The question is how it can be grown here and the limiting factors.

She would like to see large acreages of wheat growing in Alaska. Winter wheat is a good alternate crop with barley. Current practice is growing barley continuously and that encourages diseases. Winter wheat is planted in late summer and harvested in late summer. It is more efficient use of farmer's time and equipment. Overhead is costly.

Dr. McBeath was asked if she was a farmer what she would consider before growing winter wheat. She said she would grow a small acreage to begin with and look at the amount of snow cover. She would have snow mold identified and use chemicals to control the mold. She said they don't know about the distribution of snow mold in Alaska. It is indigenous to Alaska. The longer you grow winter wheat the more severe the disease. Mild winters are good for winter wheat even with thin layers of wheat. The snow provides protection in a harsher environment.

Dr. McBeath said usually the most damage by snow mold is caused by two types of snow mold. They are studying competition and inhibition among the snow molds. She talked about winter wheat being a good ground cover and helpful with soil conservation. It is planted and harvested about mid-July. The

pressure is not there like barley. Barley has to be planted in a small window of time. Winter wheat can be planted as late as mid-August. It is better to plant it earlier. Harvesting is usually the first week of August. By spring break up farmers will know if they are going to have a crop or not and have time to plant something else. Snow mold causes similar diseases on lawns.

Dr. McBeath talked about winter hardiness of wheat and amount of snow required. She said they can be controlled by different cultivation practices. Windy areas may require stubble in the field, snow fences or planting in furrows. Snow mold control is the bottleneck for growing winter wheat in Alaska. They have a continuous wheat growing study. The first experiment was evaluating chemicals and control. Their second study sprays after the crop is harvested. They are evaluating dosage and timing of chemical application. They also study the snow mold in the laboratory.