# Pulse Agronomy Network~ *Partnership in Industry*

## May 20, 2003- All Pulse Bulletin

### 1. Frost Damage on Peas

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As we all know, pea seedlings can tolerate moderate spring frosts, to -5°C. Following are some general comments in regard to frost, as well as our experiences on pea fields hit with frost in the spring of 2002:

- Heavy frost (-6 to -10°C) will result in damage to above ground tissue. The severity of damage will vary depending on seedling stage and degree and length of frost. Symptoms of damage include a slight white or yellow discoloration of leaves, to the typical wilting and browning of tissue, and with severe frost, total destruction of tissue.
- Seedlings with severe damage develop one to three new tillers from dormant buds at the first node. The higher the number of new tillers, the weaker the plant appears. The new tiller(s) develop rather quickly, within a week of the frost. It is probably best to wait for at least a week before assessing the extent of damage. It is also important to recognize that frost damage to peas will result in delayed maturity.

Although it is relatively easy to assess damage has occurred and to what extent, the challenge is answering such questions as what kind of a yield loss can be expected, if any? And, should we consider reseeding to barley or greenfeed? There is very little to no information in the literature that correlates the degree of frost damage to yield loss.

The spring of 2002, in the Vermilion area between May 18th and June 7th, we experienced a series of hard frosts. As a result there were a number of pea fields with 10 to 60% of the plants showing significant damage. The majority of damaged plants started to regrow tillers from the first node. These crops were not reseeded, which gave us the opportunity to follow up. Unfortunately the eventual drought compounded the yield loss and it was difficult to assess the affect of frost damage on yield loss.

Follow up on these fields over the course of the summer, resulted in a few observations. The plants that regrew tillers were significantly shorter and never as vigorous or strong as those that did not. They also had fewer pods. (Again it was difficult to sort out frost vs drought impact). As dangerous as this comment is to make...our "gut feel" and best "guestimate" - yields would have been reduced anywhere from 10 to 30%. However, in many cases I don't think reseeding would be warranted. As is the case with canola it is important to go through the steps of assessing yield potential and the economics of reseeding. Considerations include plant stand, weed pressure, the cost of inputs in the field, the economics of reseeding, anticipated fall prices, etc, etc. My comments are based on our experiences and unfortunately; conditions in 2002 were not the best for assessing true damage as a result of hard frosts! I would be interested in hearing comments and feedback from others!

### 2. May 13 APB Error Notice

-"Some concerns with Monsanto's preseed burnoff registration with **"2,4-D"** Amine at 3oz/ac for RR canola volunteers prior to seeding peas. In-crop control still a safer option". This should read **MCPA** Amine. Thanks to Emile DeMilliano for noting this error.