



## **Pulse Agronomy Network~ Partnership in Industry**

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### **Know Your Nodes**

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As peas germinate and emerge it becomes important to stage them correctly for proper timing of rolling and herbicide application. Peas are staged by counting the nodes on the stem, and not by leaf stage or height, as is the case with most other crops.

Weather conditions can play a significant role in determining the height of a pea plant. For example, in adverse weather a pea plant can reach 6 nodes and be only 3 to 4 inches tall. **The height of a pea plant does not reflect its physiological maturity, but node stage does.** Crops are better at actively metabolizing herbicides at certain stages of physiological maturity. In peas this is usually the three to five node stage and most herbicides used in peas are sprayed at this time.

The vegetative stage in peas includes the period from shoot emergence to the first reproductive node. Vegetative growth on peas starts with the production of two scale leaves, which are produced on the first two nodes on the stem. These scale leaves are quite small (a bit smaller than an eraser on the end of a pencil) and close to the stem and are often dropped later in the season. **It is important to note that the scale leaves are not counted when counting node stages. The point where the first true leaf joins the stem is counted as the first node.**

The second node is where the second leaf joins the stem and so on. Most pea varieties grown in Alberta will produce from nine to twelve nodes during the vegetative stage, before the first reproductive node is produced (flowering). Once the pea plant has reached the second node stage, it can grow quite rapidly – up to two nodes in five to seven days. The peas grown in Alberta are either short-vined determinate types and on average internodes (the distance from one node to the next) will be 1 to 3 inches long. The longer vined indeterminate types on average have internodes that are 4 to 8 inches long.

Peas normally have a single stem, however, peas that were out of the ground and experienced the recent frosts may develop multiple tillers – usually two to three. Be sure and stage the main center tiller for spraying. Also, it has been our experience that these tillers and plants do not produce as well as a pea plant with only one tiller.

In summary, as always be sure to check the herbicide label for recommended staging before herbicide application. As well, Alberta Agriculture's "Blue Book", the 2004 Crop Protection Guide, has some excellent diagrams on staging crops (see page six for the pea diagrams).