



Pulse Agronomy Network~ Partnership in Industry

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1. Land rolling pulse crops

(Mark Olson, Pulse Specialist, Alberta Agriculture)

(Ken Lopetinky, Pulse Research Agronomist, Alberta Agriculture)

- Field pea and lentil may be rolled after emergence, though, pre-emergence is preferred. Chickpea, dry bean, and fababean, usually, are not rolled after emergence. Rolling chickpeas after emergence may spread ascochyta blight. Also, both chickpea, dry bean and fababean develop turgid, stiff stems early in their development and rolling can cause mechanical (breakage) injury. For fababean, rolling is not necessary because of the higher pod location and good stand-ability of this crop.
- Research by Lopetinsky et al. 1993-94 on rolling of field pea fields compared to a check (not rolled) showed a trend to lower yields (although not statistically significant) by rolling late (2-3 node growth stage) with full water ballast (heavy). An early rolling (right after seeding) without water ballast (light) did not reduce field pea yield (Park, R and Lopetinsky, K, L. (eds). 1999. Pulse Crops in Alberta. AGDEX 142/20-1. p63).
- Research on lentils indicate that land rolling after the emergence of lentil can be successfully completed up to the five to seven node stage without significant yield loss. Rolling the lentil crop after a rain or heavy dew can increase the chance of spreading ascochyta and anthracnose.
- If a producer misses pre-emergent rolling of field pea fields often ask **"Do I spray weeds first or roll the field first?"** Researchers found field pea yield declined for every week spraying was delayed after emergence. Waiting four weeks after emergence resulted in a 25 % penalty in yield.
- Rolling post emergent before spraying (especially when dry) may result in dust on plant foliage reducing herbicide absorption and plant photosynthesis or growth. Mechanical damage of field pea plants can also affect the pea's ability to metabolize the herbicide into harmless byproducts in the plant, decrease the weeds ability to translocate or move the herbicide into itself.
- Farmers should be careful not to double roll areas of the fields such as headlands because excessive plant damage can occur. If farmers wish to roll the field post emergence, rolling should be done when plants are slightly wilted and the soil surface is dry. Rolling should not be done on wet soils or when the crop is damp or stressed by extreme heat, frost or herbicide application. If practical, wait a minimum of two to three days.
- Blair Roth, agrologist with Agricore United, best sums up land rolling pulses post emergence. "When it comes to rolling fields, make sure you are imposing no more than one stress on the pulse crop at any one time"

Links for land rolling:

<http://www.reducedtillage.ca/landrollers.html>

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex17](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex17)

Announcements:

-Look for the updated Alberta Pulse Growers website www.pulse.ab.ca coming in May
-AAFRD Diagnostic Field School @ CDC North July 15-25, 2003. Dates booking up fast.

Contact: Keith Topinka (Diagnostic Field School Coordinator)

<mailto:keith.topinka@gov.ab.ca>

Phone (780)422-0891 or (780)422-1789

Fax: (780)422-6096