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## Tips from the Air Drill Diagnostic Workshop 2006

Growers know that for small seeded crops such as canola, seed placement is critical for good emergence and stand establishment. Ideal seed placement requires proper calibration and maintenance of the air seeding tool and the attached air cart/tanks. Here are some practical tips that Canola Council agronomists picked up from air drill equipment manufacturers and dealers who participated in a CCC workshop April 19, 2006.

- 1. Check all bearings on rollers and auger delivery systems for possible damage.** The seed coating on canola will leave a residue that can penetrate sealed bearings and may cause drag and bearing wear, therefore slowing the rotation of the seed delivering system and causing inaccurate seeding rates.
- 2. Take the hose off the last opener on the outside wing of the air drill and attach to frame at the angle recommended by the manufacturer.** This action will help you evaluate air stream flow as it relates to fan speed. If seed and/or fertilizer travel are propelled either less than 12" or more than 24" from the end of the tube prior to dropping, adjustment can be made to either fan speed or air dampers at the fan outlet to regulate seed and fertilizer output and help reduce seed bounce, damaged seed or plugging at the seed boot outlet.
- 3. Every year, give all product delivery hoses a 1/4 turn to reduce wear spots inside of hose delivery systems.** This will also reduce drag within the hose and assist in maintaining accuracy of seed delivery rates.
- 4. Check auger flighting and or fluted roller delivery systems for wear and possible build-up of seed coatings** which can affect accuracy of seed delivery rates.
- 5. Check seed monitor sensors.** Build up of seed coatings on monitor sensors can affect seed rate accuracy. Also ensure that the number of pulses per mile are set properly, as they can be affected by tire size, tire pressure and soil conditions.
- 6. Check calibrations by checking air pressure and tire size circumference.** The tire circumference can differ by 4-8% on the same size tire. Also ensure calibrations simulate the speed of travel, give or take a half a mile per hour, as higher speeds require higher rates of product flow per unit time and there may be limitations to the system at higher speeds.



- 7. Maintain the flexibility of the air tank seals; don't leave air tank lids compressed over winter.** This action will prevent air leaks and poor seed flow during the seeding operation. Proper product flow requires pressure to be equalized between the inside of the tank and the tubes delivering product to the drill. Loss of tank pressure will slow flow of product out of the tank due to back pressure from higher pressure in the tubes.
- 8. Determine if there is a bypass effect of seed and fertilizer caused by wear of components within the delivery system.** Check auger flighting and or fluted roller delivery systems for wear by running air fan in the stationary position, checking at the end of the seed boot for seed and or fertilizer.
- 9. Check for air leaks to ensure proper product flow capacities within air delivery systems.** Use a soap test method (water & dishwashing soap mixed) around hose connections, manifolds, metering systems, air tank seals, etc. The tightening or readjustment of a seal can make all the difference in accurate seed and fertilizer placement.
- 10. When tillage unit is leveled, mark all nuts, lock collars, etc. for setting depths with a punch or chisel** to make it easier to find any changes due to backing off from vibration.
- 11. Use wear plates wherever possible to lengthen the life of the main body of the boots** which are more expensive to replace. Also find out how much wear is allowable before placement is compromised or plugging is likely in heavier textured soils, and then monitor openers to ensure that amount of wear is not exceeded.

These are general tips that growers can use to help ensure that their seeding equipment produces good stands of small seeded crops such as canola. For more specific information on a particular brand of equipment, producers are urged to contact the manufacturer.