

X LIBERTY TANK MIX TRIAL

- Objective:** Demonstrate strategies to improve the efficacy of the contact herbicide Liberty on grassy weeds.
- Background:** Liberty is a non-selective contact herbicide that is used to control weeds in Liberty Link canola. Previous research has indicated Liberty to be less effective on controlling grasses than other non-selective herbicides. Reducing the rate of Liberty while adding a half rate of a grass herbicide should improve grass control while maintaining control of the broadleaf weeds.
- Methodology:** The Liberty tank mix trial consisted of the following treatments in a randomized complete block design:
1. Liberty - full rate (34 oz/ac) + ammonium sulfate (3 lb/ac)
 2. Liberty (28 oz/ac) + Assure II (4 oz/ac) + ammonium sulfate (1.5 lb/ac)
 3. Liberty (28 oz/ac) + Poast (6 oz/ac) + ammonium sulfate (1.5 lb/ac)
 4. Liberty (28 oz/ac) + Select (2 oz/ac) + ammonium sulfate (1.5 lb/ac)
- Observations:** This trial was integrated into the variety and systems comparison trial. Weed pressure was high with primary weeds including green and yellow foxtail, Canada thistle, wild mustard, redroot pigweed, common lambsquarters, smartweed, and wild buckwheat. Heaviest weed pressure came from foxtail numbering over 200 per square foot and large patches of Canada thistle. Herbicide applications were delayed due to the excess moisture and lack of calm conditions. All treatments were applied prior to sunset on June 25 at the 6-leaf stage of the crop in very muddy conditions. To avoid wheel tracks in the plots, the sprayer was driven on the border area of each plot. Weed control was excellent for all the different tank mixes. No differences in maturity were noted among the treatments.

Results:

LIBERTY TANK MIX TRIAL Thief River Falls, MN				
Treatment	Yield (lb/ac)	Yield (bu/ac)	Contrib. Margin (\$/ac)	Oil (%)
Liberty – full rate	1401	28.0	17.31	42.9
Liberty + Assure II	1393	27.9	17.03	42.8
Liberty + Poast	1450	29.0	24.64	42.8
Liberty + Select	1341	26.8	12.59	42.4
LSD	182.5	3.65		0.50
CV%	10.1	10.1		0.9

Discussion:

Tank mixing options did not affect yield or oil. Contribution margins reflected differences in yield and chemical costs.