

Plant Growth Regulator Trial Results

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A plant growth regulator (PGR) trial was carried out during the growing season of 2022 with the help of producers in Northeastern Ontario. This trial was geared towards testing the effects of these products on cereal crops in the area, mainly testing their performance to reduce cereal crop lodging. Two PGRs were used, Manipulator (Belchim Crop Protection Canada) and Moddus (Syngenta Canada). The trials took place in 10 fields and PGRs were applied on barley, oats and wheat crops. The table below presents the data collected for each of the parameters measured per field, each field containing a treated (with PGR) as well as an untreated (no PRG applied) section for comparison.

Field	Crop	Product Used	Yield (bu/ac)	Harvest Moisture %	Stem Thickness (mm)
Field 1: With PGR	Oats	Manipulator	95.29	13.1	0.998
Field 1: Without PGR	Oats	-	97.48	12.95	0.912
Field 2: With PGR	Barley	Manipulator	x	14.45	0.84
Field 2: Without PGR	Barley	-	x	14.1	0.75
Field 3: With PGR	Oats	Manipulator	109.51	14.7	0.67
Field 3: Without PGR	Oats	-	113.73	15.1	0.95
Field 4: With PGR	Barley	Manipulator	53.06	x	0.8
Field 4: Without PGR	Barley	-	49.01	x	0.77
Field 5: With PGR	Barley	Manipulator	76.81	17.55	x
Field 5: Without PGR	Barley	-	83	17.55	x
Field 6: With PGR	Barley	Manipulator	81.27	17.35	0.86
Field 6: Without PGR	Barley	-	72.38	16.4	0.84
Field 7: With PGR	Oats	Manipulator	159.2	13.15	0.87
Field 7: Without PGR	Oats	-	163.5	12.45	0.7
Field 8: With PGR	Oats	Moddus	144	13.8	0.5
Field 8: Without PGR	Oats	-	66	10.9	0.53
Field 9: With PGR	Winter Wheat	Moddus	100.8	x	x
Field 9: Without PGR	Winter Wheat	-	102.9	x	x
Field 10: With PGR	Barley	Manipulator	102.2	x	0.68
Field 10: With PGR	Barley	Moddus	103.6	x	0.69
Field 10: Without PGR	Barley	-	x	x	0.77

Cost analysis of Manipulator and Moddus				
	Cost per acre on Moddus	Cost per acre on Manipulator	Price/ Bushel on Market	How many bushels needed to break even
Oats	15.41	16.3	5.4	2.85
Barley	19.13	21.25	5.66	3.38
Winter Wheat	19.13	16	8.44	2.26
Spring Wheat	15.41	16	10.35	1.49

Average Yields With Manipulator			
	With PGR (bu/ac)	Without PGR (bu/ac)	Difference
Barley	70.38	68.13	2.25
Oats	121.3	124.9	-3.6
Winter Wheat	x	x	x

Average Yields With Moddus			
	With PGR (bu/ac)	Without PGR (bu/ac)	Difference
Barley	x	x	x
Oats	144	66	78
Winter Wheat	100.8	102.9	-2.1

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