Winter Wheat and Winter Triticale Research Report
Sudbury District, 2017-2018

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Introduction

Ray Brubacher of 80 Wither Road, R.R. #1, Massey, Ont. In the Township of Sables-Spanish Rivers, planted three varieties of winter triticale (Pika, VNS and Luoma) and two varieties of winter wheat (CM 614-Canada Eastern soft red, and Emmit-Canada Eastern soft red) September 19 and 28, 2017. This report details the agronomics, subjective observations, and grain and straw yield data of these winter cereal trials. Please note: WW= Winter wheat, WT= winter triticale. Thanks are given to OSCIA for their support with these trials.

Planting, Soils and Tillage

The following acreage measurements were done with the seed drill meter, accurate to within .2 of an acre. On September 19, 2017, in Field #1, 4 acres of CM614 WW and 1.6 acres of Pica WT were sown at 130 pounds and 160 pounds per acre respectively. Also on September 19, 2017, in Field #2, 3.4 acres of CM614 WW, 2 acres of Pica WT and 2.8 acres of Emmit WW were sown at 130 pounds, 160 pounds and 160 pounds per acre respectively. On September 28, 2017, in Field #3, 4 acres of Emmit WW, 2.7 acres of Pika WT, 1.6 acres VNS WT and .6 acre mixture of Luoma/VNS WT were sown at 160 pounds per acre (Refer to chart below)

Field #	Date Planted	Variety	Seeding Rate (Lbs/acre)	Acreage
1	09/19/17	CM614 WW	130	4
1	09/19/17	Pica WT	160	1.6
2	09/19/17	CM614 WW	130	3.4
2	09/19/17	Pica WT	160	2
2	09/19/17	Emmit WW	160	2.8
3	09/28/17	Emmit WW	160	4
3	09/28/17	Pika WT	160	2.7
3	09/28/17	VNS WT	160	1.6
3	09/28/17	Luoma WT-VNS WT Mix	160	.6

The winter wheat and winter triticale were sown with a Case IH 5100, with double disk openers and press wheels. Field #1 was systematically tiled at 40 foot spacing. Fields #2 and #3 are not tiled but “should be”. Fields #1, #2 and #3 had peas as previous crop, so a nitrogen credit may be available. CM614 WW, Pica WT and Luoma WT were certified #1. Emmitt WW was bin run and VNS WT was common #1. Fields #1, #2 and #3 primary tillage was with a chisel plow and all had one pass with the cultivator as secondary tillage.

Fertility

Soil tests for these fields were taken in the fall of 2016. Soil tests are available up on request. The soil samples were sent to a SynAgri lab in Quebec. (http://www.synagri.ca/)
Nitrogen application in the form of Urea (46-0-0) done in the spring of 2018. A starter fertilizer (grade 7-34-20) was drilled with the seed at varying rates. (Refer to chart below)

Field #	pH	P Test	K Test	Starter 7-34-20	Urea 46-0-0	Plant Food/Acre
1	5.7	14	190	110	100	54-37-22
2	5.1	10	110	110	30	22-37-22
3	5.5	10	110	80	30	20-27-16

Weed and Insect Control

No herbicides used in these trials. CM614 WW was treated with Cruiser Vibrance Quattro. All the triticale varieties were untreated, and the Emmit WW was untreated.

Weather Data and Heat Units

The growing conditions for late fall of 2017 and the spring of 2018 were cooler and wetter than the 30 year rolling average for West Sudbury. Weather data is courtesy of Farmzone, www.farmzone.com

2017: May 15-October 15, Espanola Station, 2853 CHU and 1702 Growing Degree Days, precipitation data not available.
2018: May 15-September 10, Espanola Station, 2414 CHU and 1569 Growing Degree Days, precipitation data not available.

Precipitation data might be available from local weather stations or Agricorp stations used for the forage insurance program.

Growing Season Observations

Field #1 had a little winter kill. Field #2 had a lot of winter kill due to lack of systematic tile. Field #3 encountered very bad winter kill due to later planting date in 2017 and lack of systematic tile. May 6, 2018- CM614 WW much better than Emmit. VNS WT much better than Pika WT and somewhat better than Luoma WT. Over all, not much difference between wheat and triticale. More difference between varieties. Triticale might be somewhat better than wheat. CM614 WW and Emmit WW same heading date. VNS WT, Luoma WT and Pika WT 2, 3 and 4 days later heading dates respectively. When changing colour at ripening, VNS WT and Pika WT 5 days later and Luoma WT 10 days later.

Harvest Results and Observations

The WW plots were combined August 3rd 2018, with a pull type John Deere 6001 combine with a flex head. The triticale plots were harvested on August 18th but combining would have been easier if additional time was taken compared to the winter wheat. Bushel weights from an uncleaned sample of each variety were taken. Harvest moisture of all varieties were from 13%-15%. The triticale plots were difficult to combine because of the volume of straw. Volumetric measurements and bushel weight densities were used to determine yields per acre. The intention of these plots was to compare winter triticale to winter wheat for both grain and straw yield. The comparisons were similar for grain yields, but the WT had considerably more volume of straw.

Factors affecting yields from these plots in order of importance:

1) Tile drainage
2) Planting date
3) Variety

See chart below for yield in tonnes per acre, and indexes of grain and straw yield across varieties.

Notes: Bushel weights WW 65 pounds, WT 58 pounds
Straw bales yield based on small square bales weighing 35 pounds.
CM614 WW in Field #1 and Emmit WW in Field #2 received 2 inches of rain on straw resulting in some loss

Field #	Variety	Yield Tonnes/Acre	Straw Bale Count	Average Grain Yield Index across all plots	Average Straw Yield Index across all plots
1	CM 614 WW	1.75	100	104	97
1	Pika WT	1.35	110	89	118
2	CM614 WW	1	37		
2	Emmit WW	.73	20	73	45
2	Pika WT	.95	50		
3	Emmit WW	.58	11		
3	Pika WT	.66	31		
3	VNS WT	.99	37	134	140