

Station 2: 4R Treatment and Layout

2020 MSSS Drop-in Tour — 4R Canola N Management

- ✿ 4R Nitrogen Fertilizer Study under the Canola Agronomic Research Program (CARP) of the Canola Council of Canada
- ✿ Project is for 3 year and started with fall application in October 2018
- ✿ Objectives are to evaluate benefit of 4R practices for
 - ✿ Agronomic
 - ✿ Environmental
- ✿ Treatments are designed to compare treatment effects at 1× and 0.7× recommended N
 - ✿ Surface application of SuperU to shallow/deep banding urea (Source and Placement)
 - ✿ SuperU or ESN blend to urea when shallow banding (Source)
 - ✿ Nitrification inhibitor for deep banding (Source and Placement)
 - ✿ Fall to spring application of urea and the enhanced efficiency products (Timing)
 - ✿ At Plant and in-season N application (Timing)
 - ✿ Urease/nitrification inhibitors to top-dress UAN (Source)

0.7 × Rec. N rate Rep 1 ■ In-season UAN ■ Pre or At-plant Check

trt #	54	47	42	40	56	44	46	53	55	48	52	41	43	50	49	51	45
plot #	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517

1 × Rec. N rate Rep 1 ■ In-season UAN ■ Pre or At-plant Check

trt #	17	19	16	14	22	21	25	24	18	20	13	28	27	26	15	23	12
plot #	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117

Station walkthrough

- ✿ **Station 1:** Project Overview
- ✿ **Station 2:** 4R Treatments and Layout
- ✿ **Station 3:** Canola Grain Yield
- ✿ **Station 4:** N₂O
- ✿ **Station 5:** NH₃
- ✿ **Station 6:** 4R Summary
- ✿ **Station 7:** Further Learning
- ✿ **Station 8:** Introducing the 4R Senior Industrial Research Chair Program

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trt #	Pre or At Planting				In season				Toal N rate (lb N/ac)
	N Rate (lb N/ac)	Source	Placement	Time	N Rate (lb N/ac)	Source	Placement	Time	
12	100	Urea	Surface Broadcast	Spring					100
13		SuperU							
14		Urea	Shallow MRB						
15		70%ESN: 30%urea							
16		SuperU							
17		DMPsa Urea							
18		eNtrench Urea	Deep MRB						
19		UI dmpsa Urea							
20		Urea							
21		DMPsa Urea							
22	eNtrench Urea								
23	60	Urea	Deep MRB	Spring	40	UAN UAN w/agroT UAN w/ agroT plus UAN	Top dress	Rosette	
24									
25		70%ESN: 30%urea	Shallow MRB						
26									
27	70	Urea	Shallow MRB	Spring					70
28	0								0
40	70	Urea	Surface Broadcast	Spring					70
41		SuperU							
42		Urea	Shallow MRB						
43		70%ESN: 30%urea							
44		SuperU							
45		DMPsa Urea							
46		eNtrench Urea	Deep MRB						
47		UI dmpsa Urea							
48		Urea							
49		DMPsa Urea							
50	eNtrench Urea								
51	42	Urea	Deep MRB	Spring	28	UAN UAN w/agroT UAN w/agroT plus UAN	Top dress	Rosette	
52		Urea							
53		Urea							
54		70%ESN: 30%urea	Shallow MRB						
55	100	Urea	Shallow MRB	Spring					100
56	0								0

