

Appendix: 2016 Annual Report Nitrogen contribution from cover crops for vegetable crop uptake

	90ft						
D							100 ft
C							
B							
A	No Cover Crop	No Cover Crop + 60lbsN/A	Rye, Vetch	Rye, Vetch + 60lbsN/A	Farmer Choice	Farmer Choice + 60lbsN/A	
	1	2	3	4	5	6	
	15ft	15ft	15ft	15ft	15ft	15ft	

Figure 1. Experimental design showing plots that will receive additional fertilizer in the spring after cover crop incorporation. Each farm has slightly different plot sizes to fit in their fields best, but all include enough room for four 2ft² biomass sample areas, 24 PSNT core samples, and at least 2 rows of cash crops so that yield data can be sampled and none of the sample areas overlap.

	Farm	Farmer Choice (lbs/acre) - \$/acre ²	Planting Date	% soil OM	CEC	soil pH	NO3	P ppm	K ppm
1	Matuszko	Fria (6), Crimson Clover (4), Tillage Radish (10) - \$52/A	8/26/2016	2.2	8	5.3	28	17.6	156
2	Langwater	Oat (90), Pea (50), Vetch (40) - \$308/A	9/2/2016	6.8	14.7	6.3	105	11.7	175
3	Tangerini	Oat (90), Crimson clover (15), Vetch (18) - \$205/A	9/2/2016	3.4	9.3	6.1	30	10.5	102
4	Karb	Summer 2016 seeded: Sorghum Sudan (90), - \$234/A Spring 2017 Seeded: Oat (100), Pea (100) - \$251/A	9/4/2016	6.2	10.7	6.1	5	1	44
5	UMass	Rye (60), Vetch (20), Tillage Radish (5) - \$96/A	9/6/2016	1.7	6.7	6.1	20	15.2	99
6	Lawson	Fria rye (15), Crimson clover (15), Vetch (18) - \$136/A	9/8/2016	2.9	7.3	6.2	25	12.7	145

Table 1. Baseline soil samples were taken prior to seeding cover crops on each farm. Differences in pH, % soil organic matter and nitrate are expected to influence the mineralization of N next season. We will also find out which treatments were most cost effective for their N contributions. ² Prices are for organic seed used at Langwater, Tangerini, Karb and Lawson locations, and non-organic seed used at Matuszko and UMass locations.

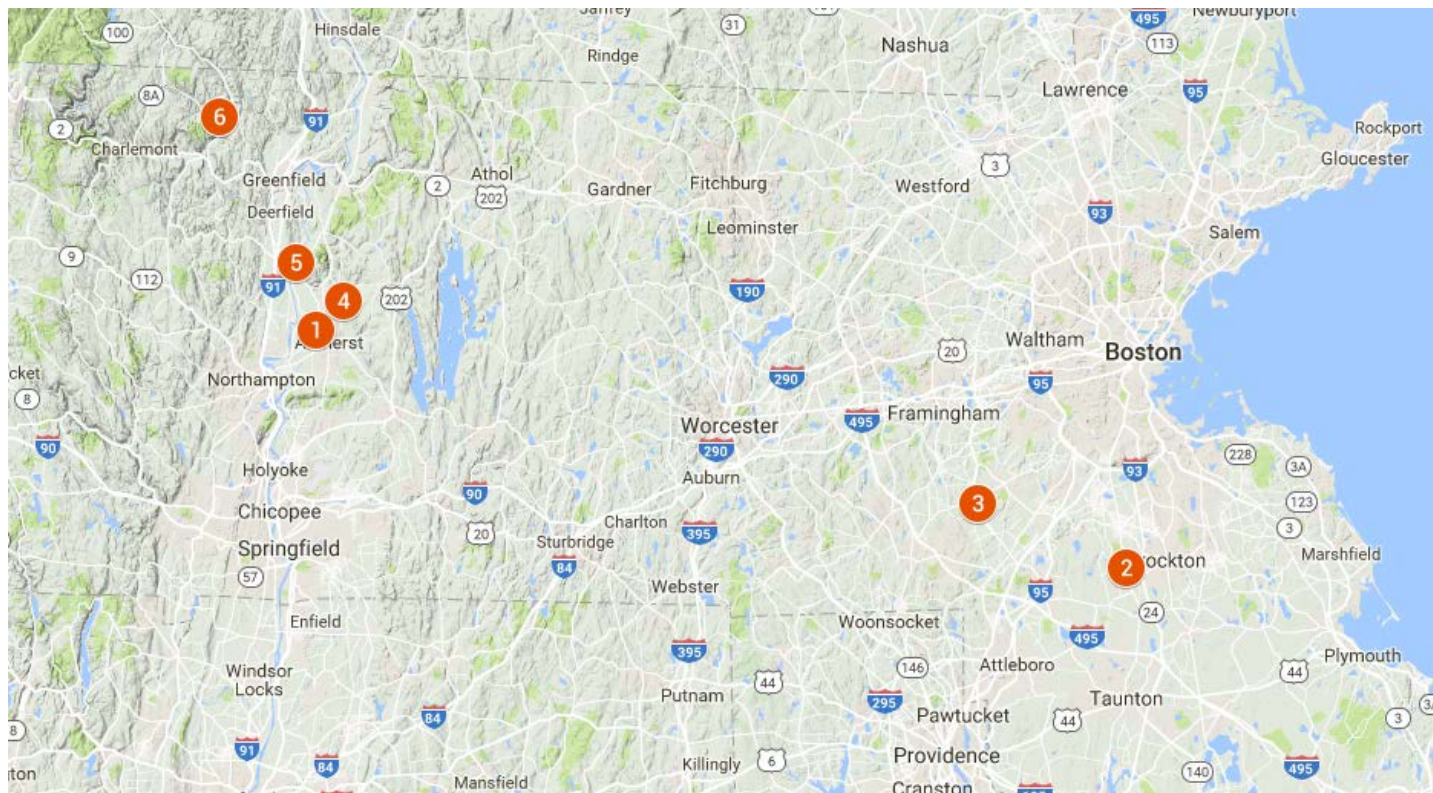


Figure 2. Source: Google Maps. Locations of the cover crop trials. Numbers in Table 1 above indicate farm or farmer names

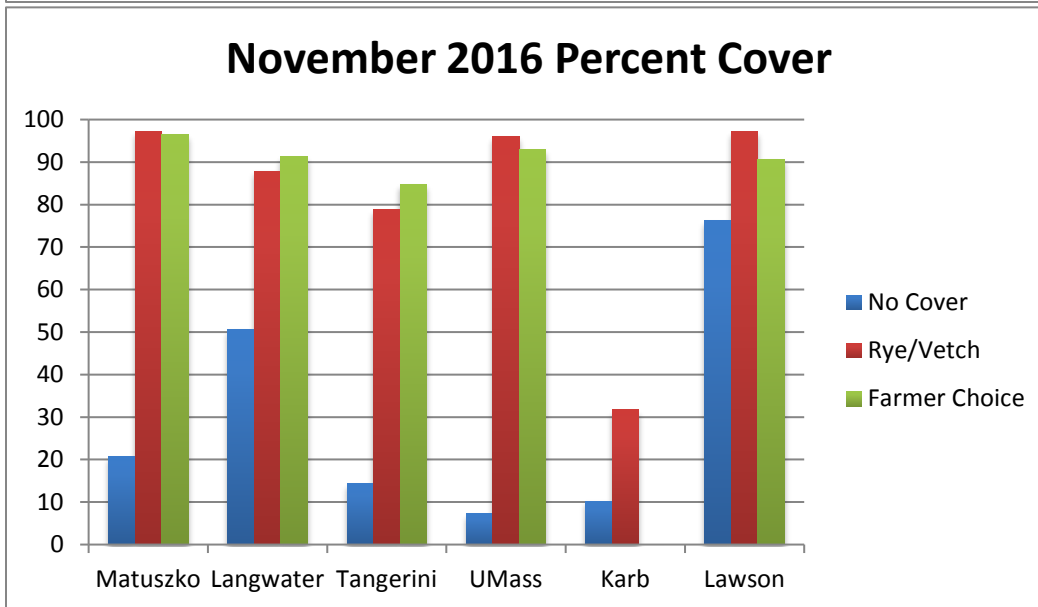
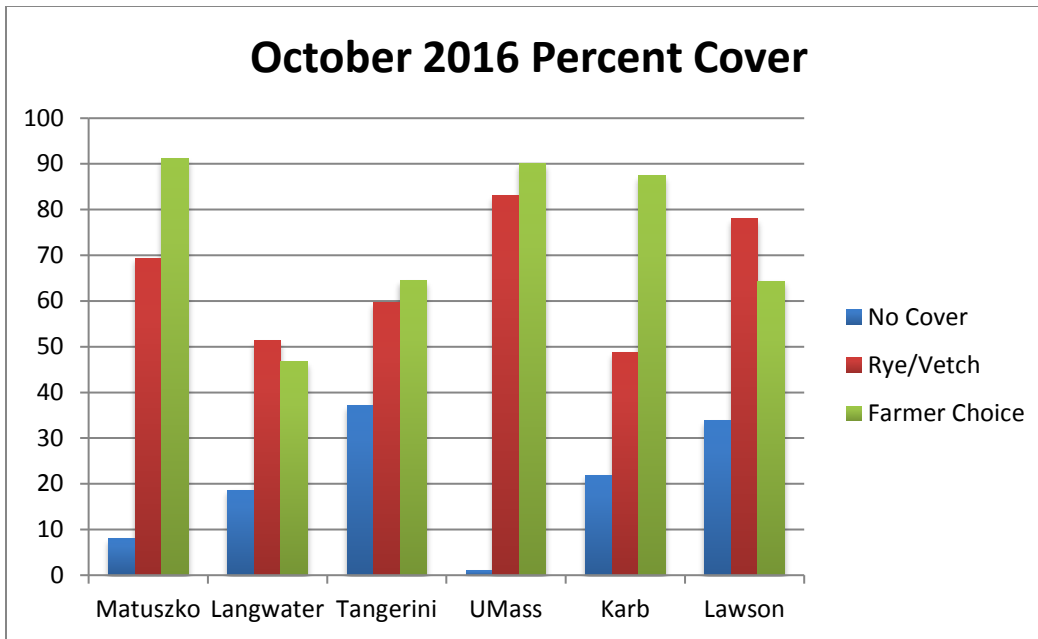


Figure 3a (above) and 3b (below). Data shown here was rated by farmers and project coordinators. In some cases, the data from the Canapaeo App was not accurate because of cover crop height or leaves on the plots, therefore, Canapaeo data is not shown. Some plots were weedier than others and predominant weeds found in different locations were: [pigweed](#), [lambsquarters](#), [carpetweed](#), [wild radish](#), and [ground ivy](#). In October, the Karb location still had sorgum sudan in the Farmer Choice plots, but by November, it had been mowed down along with weeds in the other plots. By November, we had reached almost 90% cover in all plots planted with cover crops except for at the Tangerinis where the field was dryer and there was some deer feeding on cover crops. We are thankful that the fall of 2016 had good weather for cover crop establishment. There were no significant differences in % cover between farmer choice and the rye/vetch treatments.