

Table 2. Effect of brassica cover crops on **pre-plant pH, organic matter and soil fertility** of onions grown in the muck soils in Elba, NY.

Field	pH	% OM	Pre-Plant Nutrient Complete Nutrient Analysis (lb/A) <sup>1</sup>											
			P	K	Ca	Mg	Mn	B	Cu	Zn	Fe	Al	Mo	S
<b>Triple G Case Study (Yellow direct seeded onion; c.v. Hendrix) (pre-plant soil samples collected on Apr-21-2014):</b> Brown/yellow mustard blend (c.v Caliente) 11 lb/A; optimally planted on Aug-20-2013; late planted on Aug-30-2013 (10 days). Incorporation: cover crops chopped, disked and culti-mulched on Oct-25-2016 when mustard was 2 feet tall with ~1% in bloom.														
Bare ground	5.5 a <sup>2</sup>	53.8	84.9	944 b	59,138 a	1,929	31.6	2.7	0.87	13.1	6.4	15.3	0.05	131
Late Planted Mustard	5.1 b	54.8	80.1	1,161 a	41,519 b	1,749	34.0	2.2	0.97	13.0	4.6	18.7	0.04	84
Optimally Planted Mustard	5.0 b	52.9	86.5	1,309 a	39,675 b	1,966	44.4	2.6	1.06	14.1	4.7	17.8	0.05	132
<b>P Value (<math>\alpha=0.05</math>)</b>	<b>0.0175</b>	<b>NS</b>	<b>NS</b>	<b>0.0163</b>	<b>0.0167</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
<b>Mortellaro Case Study (Yellow transplanted onion; c.v. Bradley) (pre-plant soil samples collected on Apr-24-2014):</b> Brown/yellow mustard blend (c.v. Caliente) 12 lb/A; optimally planted on Aug-7-2013 and incorporated via chopping, plowing and rolling on Oct-23-2013 when mustard 5 feet tall with 70% in bloom; late planted on Sep 26-2013 (37 days late) and incorporated in the same manner on Oct-28-2013 when mustard was 4 feet tall with 30% bloom. Winter-killed late planted mustard was planted on Aug-27-2013 (7 days late). Forage radish (c.v Ecotill Buster) 8 lb/A was planted on Aug 30-2013 (10 days late).														
Incorporated Optimally Planted Mustard	4.8	41.7 c	65.4	484	22,080 b	1,941 a	97.7	1.2 b	1.3	17.5	100 a	60	0.07	279
Incorporated Late Planted Mustard	4.6	51.5 a	77.1	454	25,216 a	1,524 b	120	1.8 a	1.2	16.1	60 b	61	0.05	349
Winter-killed Late Planted Mustard	4.7	45.6 bc	68.6	487	22,155 b	1,875 a	103.4	1.3 b	1.1	15.8	72 b	56	0.06	264
Winter-killed Late Planted Forage Radish	4.5	47.0 b	74.4	424	21,380 b	1,465 b	109.6	1.3 b	1.2	16.2	75 b	62	0.06	304
<b>P Value (<math>\alpha=0.05</math>)</b>	<b>NS</b>	<b>0.0064</b>	<b>NS</b>	<b>NS</b>	<b>0.0019</b>	<b>0.0007</b>	<b>NS</b>	<b>0.0013</b>	<b>NS</b>	<b>NS</b>	<b>0.0075</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>

<sup>1</sup>Modified Morgan soil test; P: phosphorous; K; potassium; Ca: calcium; Mg: magnesium; B: boron; Zn: zinc; Fe: iron; Al: aluminum; Mo: molybdenum; S: sulfur. Samples collected from replicates 1, 3 and 5. <sup>2</sup>Numbers in a column followed by the same letter are not significantly different, Fisher's Protected LSD test, p<0.05. <sup>3</sup>NS: Not significantly different, Fisher's Protected LSD test, p>0.05.