2015 COVER CROP MIX IN CORN SILAGE TRIAL

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INTRODUCTION

While growing corn silage, it is important to plan for soil health management during the season. Cover cropping is one way to prevent soil erosion, maintain and/or improve soil nutrients, improve soil aggregation, prevent nutrient loss from runoff, and increase water retention. Such soil improvements can promote conditions that add resiliency to a crop, especially in light of extreme weather patterns that may affect yields. It can be challenging to grow cover crop into corn silage without having proper interseeding equipment, or correct timg

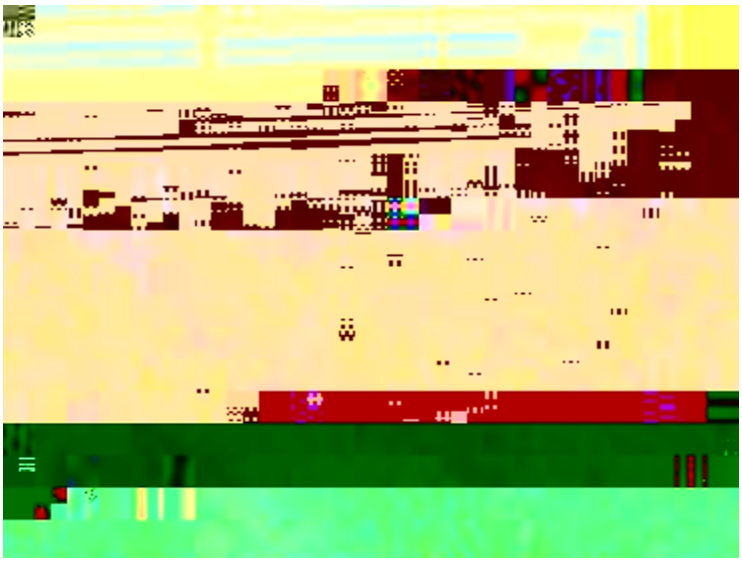

Figure 1. The Penn State Interseeder.

Table 2. Cover crop mixes, Alburgh, VT 2015.

Cover Crop Mixes
Mix 1: Fria Ryegrass and Eco-Till Radish (pre-mixed) (18 lbs/acre)
Mix 2: Tri-Cal Triticale (60 lbs/acre) and Dwarf Essex Rape (3 lbs/acre)
Mix 3: Everleaf Oats (60 lbs/acre) and Groundhog Radish (3 lbs/acre)
Mix 4: Winter Rye (40 lbs/acre), Milvus Clover (5 lbs/acre), and T-Raptor Brassica (2 lbs/acre)
Mix 5: Prince Brand Rye Grass (12 lbs/acre) and Milvus Clover (6 lbs/acre)
Mix 6: Winter Wheat (60 lbs/acre) and Ladino Clover (6 lbs/acre)
Mix 7: Soil Builder - TriCal Triticale, MOI & KB Supreme ryegrass, Crimson Clover, Hairy Vetch, and Daikon Radish (120 lbs/acre)
Mix 8: Indy Mix - Tillage Root Max Ryegrass, Crimson Clover, and Tillage Radish (18 lbs/acre)
Mix 9: Everleaf Oats (40 lbs/acre), Dynamite Clover (5 lbs/acre), and Vivant Radish (2 lbs/acre)
Mix 10: Control

Variations in yield and quality can occur because of variations in genetics, soil, weather and other growing conditions. Statistical analysis makes it possible to determine whether a difference among varieties is real, or whether it might have occurred due to other variations in the field. At the bottom of each table, a LSD value is presented for each variable (i.e. he difference between two treatments within a column is equal to or greater than the LSD value at the bottom of the column, you can be sure in 9 out of 10 chances that there is a real difference between the two varieties. Treatments that were not significantly lower in performance than the highest value in a particular column are indicated with an asterisk. In the following example, A is significantly different from C but not from B. The difference between A and B is equal to 1.5, which is less than the LSD

value of 2.0. This means that these varieties did not differ in yield. The difference between A and C is equal to 3.0, which is greater than the LSD value of 2.0. This means

Percent cover in the 85 day corn was significantly higher than percent cover in the 96 day corn (p = <.0001) (Figure 2). When comparing percent cover crop mixes from the 85 day corn only, mix 4 of winter rye, milvus clover, and t-raptor brassica was the top performer. Mixes 9, 1, 3, 7, and 8 did not perform significantly lower than the top performing cover crop, LSD (0.10) = 16.5%. When comparing dry matter yield from the 85 day corn only, mix 1 of fria ryegrass and eco-till radish had the greatest yield. Mixes 9, 8, 4, 3, and 7 did not perform significantly lower than the top performing cover crop mix, LSD (0.10) = 279.5 (Figure 3).

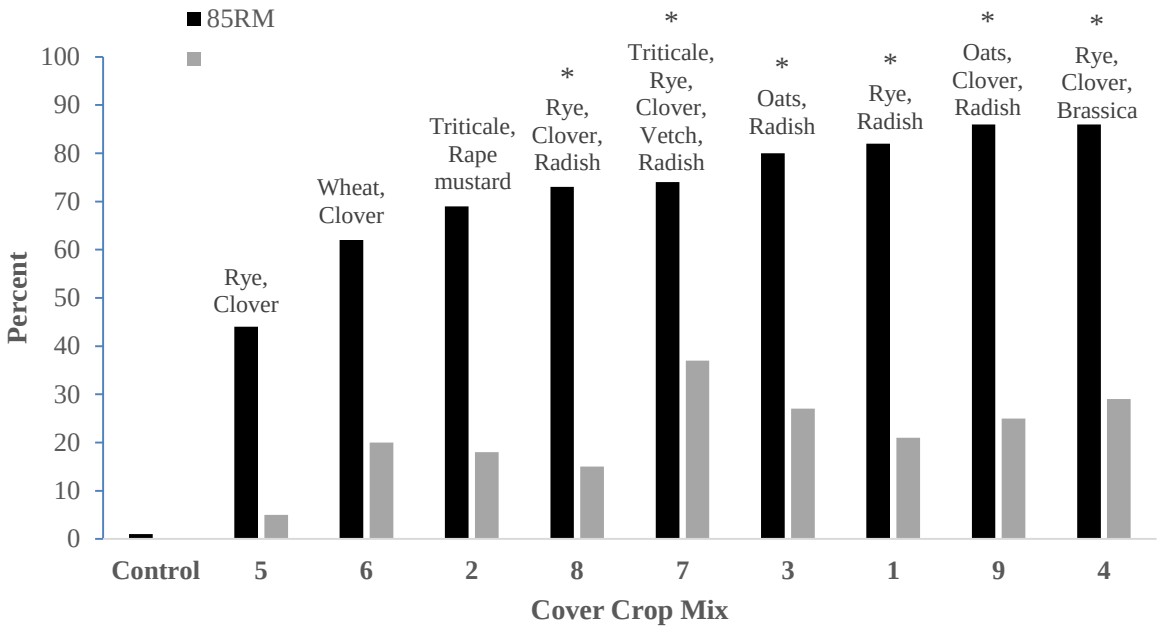

Figure 2. Percent cover from the cover crop mixes in the 85 and 96 relative maturity corn silage, Albugh, VT 2015. Percent cover varied significantly based on corn relative maturity (p = <.0001). Cover crop mixes from the 85 day corn indicated with an asterisk did not perform significantly lower than the top performing cover crop mix, LSD (0.10) = 16.5%.

Figure 3. Cover crop mixes dry matter yield from the 85 day corn. Cover crop mixes indicated with an asterisk did not perform significantly lower than the top performing cover crop mix, LSD (0.10) = 279.5.

ACKNOWLEDGEMENTS

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