

# 2019 Cool Season Annual Forage Mixtures Trial

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## **2019 COOL SEASON ANNUAL FORAGE MIXTURES TRIAL**

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In 2019, the performance of cool season annuals for forage planted in mixtures and in monoculture. In the Northeast, cool season perennial grasses dominate pastures and hay meadows that farmers rely on. Often times during the fall months, the perennial pasture will decline in yield and quality. The addition of cool season annual forages into the grazing system during this time may help improve the quality and quantity of forage and potentially extend the grazing season. Recently, there has been a growing interest in utilizing multiple cool season forage species to maximize yield and quality. We compared eleven varieties of eight annual species alone and in two-and-three species mixtures to evaluate potential differences in forage yield and quality. While the information presented can begin to describe the yield and quality performance of these forage

content and calculate dry matter yield. The samples were then ground using a Wiley mill to a 2 mm particle size and then to 1 mm using a laboratory cyclone mill from the UDY Corporation.

**Table 2. Forage mixture composition and seeding rates, 2019.**

<b>Species/Mixture</b>	<b>Variety</b>	<b>Seeding Rate</b> lbs ac <sup>-1</sup>
Oats	Everleaf	125



note that triticale will overwinter in this region and has the potential to produce additional forage in the spring, which is beyond the scope of this trial. The annual ryegrass and *Trical 815* in monocultures had significantly higher percent dry matter (16.8, 16.6%,

was statistically similar to the annual ryegrass and *T-raptor* forage brassica in monocultures. The *T-raptor* brassica had a significantly higher relative feed value (RFV) than all other treatments, with a RFV of 312. This was likely impacted by ADF, NDF, and NFC. A RFV rating of 150 represents high quality alfalfa. *Everleaf* oats in monoculture, Oats + Peas, and Triticale + Oats + Peas scored under this target, while four treatments scored over 200.

## DISCUSSION

In comparing mixtures and their monoculture components, the addition of turnips into oat mixtures decreased yields without significantly increasing quality, despite the turnips having higher quality on their own. This addition of turnips had a greater impact on the oat mixtures than adding peas or triticale, despite triticale in monoculture being the lowest performer in yield. The addition of turnips to the Oats + Peas mixture decreased dry matter yields by 800 lbs ac<sup>-1</sup>. These data also show increased yields from oats in comparison to the other grasses, without a large difference in quality. Figures 1 and 2 display yield and RFVs for the treatments. Figure 2 is divided into four quadrants by dotted lines signifying the average total yield and relative forage value (RFV). Varieties that land in the top left quadrant are those that produced above average yields but below average quality. Varieties in the bottom right quadrant produced above average quality but below average yields. Varieties in the top right quadrant produced above average yield and quality. While the forage brassicas in monocultures *T-raptor* and *Purple Top* produced both high yields and high quality forage (Figure 2), it is important to recognize that not all of the treatments could be fed and/or grazed in the same capacity. The nutrient dense and highly digestible nature of the forage turnips or peas in monoculture would require

**Figure 1. Dry matter yield and RFV of 12 annual forage treatments, Alburgh, VT, 2019.**  
Treatments that share a letter performed statistically similarly to one another.

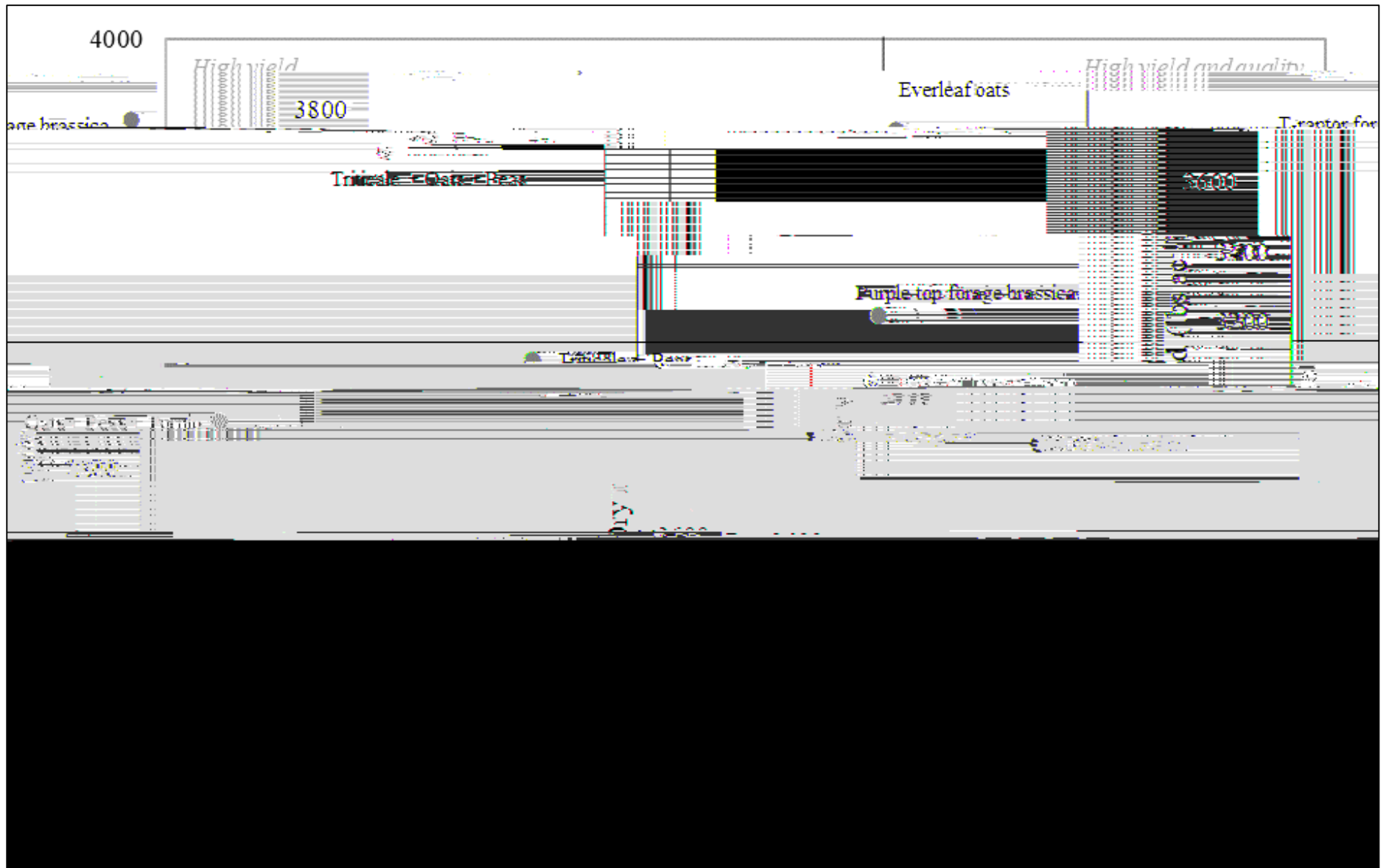


Figure 2. Yield vs. quality of 12 annual forage treatments, Alburgh, VT, 2019.