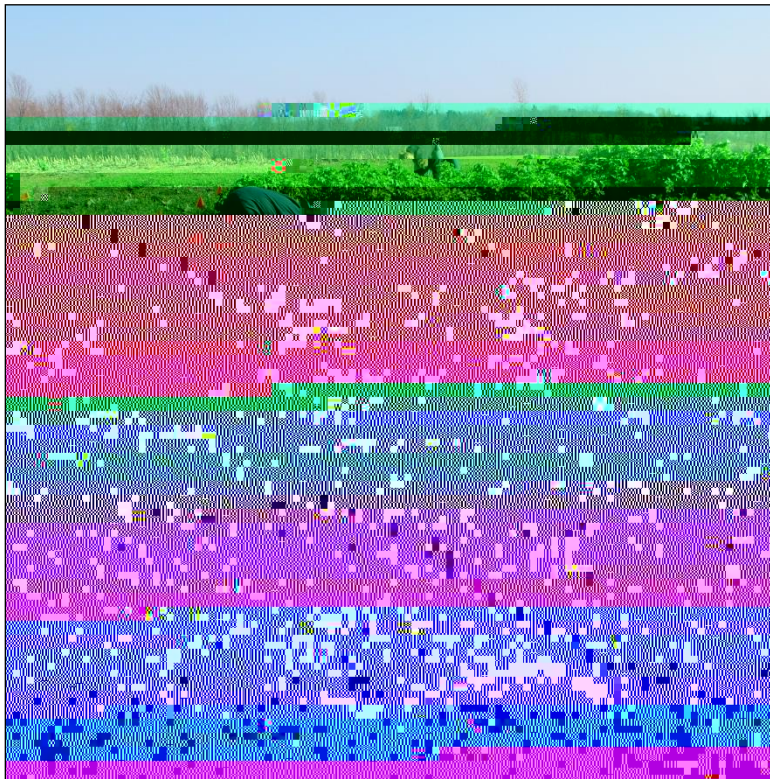


# 2012 Forage Brassica Variety Trial



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**2012 FORAGE BRASSICA VARIETY TRIAL**  
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Forage brassicas can provide a near-concentrate type diet late in the season, allow for an extra grazing opportunity after annual row crops are harvested, and establish forage to fill a gap in feed quality and supply. These crops can provide a high quality feed in a short period of time, fitting well into rotations of other crops, extending the grazing season and reducing reliance on expensive commercial feed inputs. The University of Vermont's Northwest Crops & Soils Program conducted a forage brassica variety trial to evaluate yield and quality of this annual crop.

## **MATERIALS AND METHODS**

In 2012, a variety trial was initiated at Borderview Research Farm in Alburgh, VT, in order to evaluate four forage brassica varieties (Table 1, Figure 1).

**Table 1. Forage brassica varieties and their sources, 2012.**

Variety	Species	Seed source
Appin	Turnip	King's Agriseed
Barkant	Turnip	Barenbrug
Bonar	Rape	King's Agriseed
Braco	White mustard	Preferred Seed Co.

The seedbed at Borderview Research Farm was prepared using standard local practices, including moldboard plowing the previous winter wheat crop under and finishing with disk and drag harrows

Hagerstown, Maryland using wet chemistry techniques.

**Table 3. Temperature, precipitation, and Growing Degree Days (GDDs) data by month for Alburgh, VT.**

Alburgh, VT	August	September	October
Average temperature (°F)	71.1	60.8	52.4
Departure from normal	2.3	0.2	4.2
Precipitation (inches)*	2.9	5.4	4.1
Departure from normal	-1.0	1.7	0.5

**Table 4. Crop stand characteristics and dry matter yield of four trialed forage brassicas.**

Variety	Plant height	Dry matter (DM)	DM yield	Crude protein	ADF	NDF	Ash	NFC	NSC	TDN	NE <sub>L</sub>	Fat
	in	%	lbs ac <sup>-1</sup>	% of DM	% of DM	% of DM	% of DM	% of DM	% of DM	% of DM	Mcal lb <sup>-1</sup>	%
Appin	20.5	8.7	1725	21.0	13.3*	17.8*	16.9	<b>43.4*</b>	<b>20.9*</b>	67.8*	0.70*	1.49
Barkant	17.7	9.5	2098	21.3	13.7*	18.4*	17.1	42.6*	18.2*	66.1*	0.68	1.53
Bonar	13.1	10.1	1641	<b>23.5</b>	<b>13.1*</b>	<b>17.6*</b>	14.8*	42.4	18.1	<b>69.2*</b>	<b>0.72*</b>	<b>2.55*</b>
Braco	<b>29.1*</b>	<b>13.2*</b>	<b>2594</b>	22.4	23.1	32.1	<b>14.3*</b>					

**Figure 3. Total digestible nutrients by variety. Varieties with the same letter**

Forage brassicas are known for high CP content, energy and level of digestibility. Crude protein did not differ significantly by variety, but the trial average (22.1% of dry matter) similar to lush spring pasture. Because CP measures the total nitrogen content of forages, including true proteins and non-protein nitrogen, it is also important to evaluate the amount of total nutrients that are digestible by livestock. This is why TDN, a summation of digestible fiber, protein, lipids and carbohydrates, is often more useful as an indicator of feeding value, especially in forages; in this trial, there was a significant difference in TDN by variety. The varieties Bonar (rape), Appin (turnip), and Barkant (turnip) were all significantly higher than Braco (white mustard). This was also the case for both ADF