

Cabbage Cultivar Trial 2003

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Objective: Evaluate cultivars for potential use under North Dakota Red River Valley conditions.

Methods: The trial was conducted at the NDSU agriculture experiment site in Fargo, ND. The soil is a silty clay with 6.8% O.M. and a pH of 7.2. The previous crop was oats. Ground was field cultivated once in the fall following a trifluralin (Treflan) application and twice in the spring, once immediately after 100lb N per acre urea application just prior to transplanting. Seeds of 10 cabbage varieties were sown in 72-cell trays in the greenhouse April 16 and thinned to one seedling per cell at the first true leaf stage. Seedlings were hardened off before transplanting on May 28. Plots consisted of a single 30-foot row with plants on 18-inch centers and 24-inch row spacing. Plots were arranged as a randomized complete block with four replications. Overhead sprinkler irrigation was provided as needed. Weed escapes were controlled by hand. Fleabeetles, cabbageworm and cabbage loopers were controlled as needed with either esfenvalerate (Asana XL) or permethrin (Pounce). Plots were harvested three times (August 14, September 2, and September 22) by hand with six randomly selected heads used for yield and grade comparisons. Only primary heads were harvested. Analysis of variance was used to analyze data with Student-Newman-Keuls LSD test ($p > 0.05$) for treatment means separation.

Results: Based on fresh weight harvest, the top yielding cultivars for 2003 were ‘Bobcat’, ‘Pennant’, ‘Grenadier’, and ‘Atlantis’. Head width of ‘Bobcat’ and ‘Pennant’ was significantly greater than seven other cultivars. Lowest yields were obtained from ‘Discovery’, ‘Rocket’, ‘Storage Hybrid #4’, and ‘Super Red 80’. In general, poor yields were obtained from all cultivars, most likely due to a cool, wet establishing period. Cabbage heads of ‘Storage Hybrid #4’ were generally the densest and most yellow of the non-red cultivars. Cultivars with the smallest core area included ‘Atlantis’ and ‘Super Red 80’. The highest overall rating was given to ‘Bobcat’, though these values were not statistically different.

Plant and head characteristics from transplanted cabbage cultivar trial, Fargo, ND, 2003.

Cultivar	Head Wt. (lbs)	Plant Height	Plant Width	Head Length	Head Width	Core Length	Core Width	Head Density	Inside Color	Outside Color	Overall	Yield (ton/A)
Rocket	2.2 [†]	8.4	16.9	5.2	5.1	2.5	1.0	2.5	1.6	3.4	6.3	15.9
Grenadier	2.5	9.5	17.7	5.4	5.7	2.7	1.0	1.9	1.8	2.5	6.8	18.3
Pennant	2.7	9.8	21.1	5.0	6.0	2.3	1.1	1.9	2.6	2.9	6.8	19.9
Atlantis	2.5	9.2	19.8	5.4	5.5	1.9	1.0	2.6	2.0	3.1	6.7	18.3
Bobcat	3.1	10.1	21.2	5.0	6.2	2.4	1.1	2.3	2.1	2.4	7.4	22.7
RCB26	2.2	9.7	20.1	5.1	5.3	2.2	1.1	2.3	1.9	3.1	6.1	16.2
Discovery	2.2	8.1	17.9	5.0	5.2	2.3	1.1	2.5	1.7	3.3	5.8	15.8
Super Red 80	2.2	10.5	22.0	5.2	5.0	2.1	1.1	2.4	3.6	6.9	6.1	15.9
Storage Hybrid #4	2.2	13.7	21.7	5.2	5.0	2.4	1.3	2.8	2.9	3.1	5.6	15.9
Superlite Y.R.	2.4	11.1	21.9	5.2	5.3	2.2	1.1	2.3	2.4	2.5	6.3	17.4
LSD 0.05	0.46	0.97	2.07	0.27	0.37	0.23	0.08	0.44	0.64	0.74	NS	3.36

[†]Values represent averages from 3 harvests.

Head density: scale 1 – 3 (1=loose, 3=dense). **Head color:** scale 1 – 8 (Inside 1=white, 8=red; Outside 1=light green, 8=red). **Overall:** scale 1 – 10 (1=worst, 10=best).