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Evaluation of Variety Performance for Fall-Planted Garlic in Saskatchewan 2004

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Commercial production of garlic is limited on the Canadian Prairies, as growers find it difficult to compete in the wholesale markets with low price imported product. There is however considerable interest in growing garlic in the hobby garden and for local sale. Variety selection is one of the most important decisions any garlic grower makes - but it is particularly important on the Prairies as growing conditions are challenging. Trials conducted a decade ago by the University of Saskatchewan demonstrated that fall planting generally results in superior yields and quality under Prairie conditions ... but only if adapted varieties were planted. In 2002 and 2003, we re-examined the performance of a range of garlic varieties in fall planted trials in Saskatchewan.

The trials were conducted on research plots managed by the Department of Plant Sciences at the University of Saskatchewan in Saskatoon SK. Planting material was obtained from commercial and private suppliers of "seed garlic". A couple of varieties were also obtained "off the shelf" from local retail groceries. The plots were planted out in mid-October. This planting time allowed some root development but no emergence prior to freeze up. The plots were mulched with approximately 10 cm of wheat straw after freeze up in mid-November. For the last few years, mulching has been critical to successful overwintering of garlic on the Canadian prairies, as snow pack has been limited. The mulch was removed as the crop emerged in mid-April. Standard management practices were employed throughout the growing season. Weeds were controlled by tillage. The crop was irrigated as needed. The scapes were removed from the stiffneck types. No significant problems with insect pests or diseases were observed - although some varieties sold as "seed garlic" appeared to be infected with leaf streak virus. These lines had poor vigor and died early. Each variety was harvested once 50% of the tops were down. The bulbs were field dried and then rubbed clean prior to evaluation of yields and bulb characteristics.

Results. Most varieties showed good overwinter survival, despite the lack of snow coverage. Although softneck garlic is considered to be less winter hardy than stiffneck types, the mulch treatment provided adequate protection for both garlic types in this trial. Yields were generally above commercial norms for garlic - this is typical of small plot trials. Of the softneck types, "Fishlake F4" and "Fishlake F40" along with "M&M Softcore" were outstanding. "M&M Stiffneck" was the best stiffneck type and was overall the best variety tested. "M&M Stiffneck" winters well and gets off to a very early start, producing high yields of very large attractive bulbs with relatively few cloves/bulb. The variety "Music", which is popular in other areas of Canada, performed reasonably well under Prairie conditions. It is interesting to note that at least one of the varieties purchased at a very low price directly off the grocery shelf appeared as healthy and performed as well as many of the more expensive types of "seed garlic". **Buyer Beware** continues to be good advice when purchasing garlic for planting.

Variety performance of fall-planted garlic in Saskatchewan

	2002		2003		Overall rating ^z	Comments
	% stand	Yield (t/ha)	% stand	Yield (t/ha)		
Softnecks						
Early Silverskin	69	2.7	90	5.8	2.5	Poor stand and skin
FL F4	83	4.5	100	9.3	3.8	High # cloves/bulb
FL F40	100	7.9	95	8.6	4.0	High yields, good quality
Getz	100	5.6	99	5.1	3.2	Attractive but moderate yields
Goldenview	99	2.9	79	4.5	2.8	Low yields, many cloves/bulb
M&M Small softcore	99	5.3	96	6.4	3.8	Good stand, yields and appearance
Spanish	94	5.2	90	5.8	3.2	Attractive
Vesey	84	3.6	97	6.6	2.8	
Whyte	97	2.9	71	4.9	2.0	Low yields, small bulbs
Grocery Store 1	59	1.8	100	6.2	2.8	Uneven performance
Stiffnecks						
Atkins Russian	84	4.6	80	9.2	3	Moderate stand
CGP Center Core	67	8.4	56	6.7	3.6	Poor stands but good yields
CGP Whiter Purple	87	3.8	88	7.3	2.7	Uneven performance
Czech	100	5.2	100	10.8	3.8	High yields, but looks poor
FL F3	98	5.0	84	6	3.5	
M&M Stiffneck	100	8.2	97	9.6	4.5	Excellent yields and appearance
Morado Red	70	2.1	97	4.8	2.0	Poor yields and quality
Music	87	6.7	89	10.1	3.8	Large bulbs, good yields
WCS Silverskin	86	6.0	63	5.2	3.5	Poor stand, but good yields
Grocery Store 2	91	5.9	100	8.1	3.8	Reasonable yields and quality

^z Rating of 0=poor, 5=excellent.

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