

2003 Garlic Cultivar Evaluation

***Denise Cimmarrusti, William H. Shoemaker, University of Illinois**

Garlic is one of the oldest known horticulture crops, yet in past years, it was scarcely grown. This trend is changing due to research into garlic's medicinal/health benefits, as well as consumer awareness and education regarding this herb. Market farmers and roadside stands are now offering garlic and find the demand for garlic increases, whether sold fresh or dry. As the health benefits of garlic research become more focused, consumers are not only searching for fresh produce but also for health conscious choices regarding fresh produce. Garlic is one item that fits this niche market. This evaluation was undertaken to provide information on garlic cultivars that are suitable for growing in northern Illinois.

Materials and Methods

Plot Establishment

This trial began on October 20, 2002 at the St. Charles Horticulture Research Center, St. Charles, Il., in a Proctor Silt Loam soil. Field preparation began with the soil being plowed and disked. A double disked hiller created raised beds which measured 24" W x 80' L x 8" H. Beds were spaced 6' apart on centers. 25 garlic cultivars were selected and 40 cloves of each variety were planted. 10 cloves were spaced 6" apart, and planted 4" deep in twin rows of 2' x 5' plots. The plots were spaced 2' apart in a randomized complete block pattern with four replications for each block.

Plot Maintenance

No supplemental irrigation was provided. No insect/pest or disease control was applied. Weed control measures consisted of hand weeding between plants and hoeing/rototilling the isles between beds. All seed stalks were removed when stalks were at their first curl stage.

Data Collection

Plots were harvested July 1 through July 5. Garlic was counted and weighed at that time, then hung upside down in a shed with fans to provide sufficient air flow. After four weeks curing time, the tops, roots and loose, outer portions of sheath were removed from the bulbs and bulbs were once again weighed. The averaged weight results at harvest and at cured state are shown in Table 1.

Results and Discussions

Based on previous growing observations in subsequent years, overall bulb size and weight across all cultivars after harvest was disappointing. All cultivars listed in Table 1 had been acclimatized to zone 5 for at least four years prior to this evaluation, therefore minimal bulb loss can be attributed to this aspect. Bulb loss for this evaluation was at previous expectations.

**UI Kane County Master Gardener; Sr. Research Specialist, Food Crops, Dept of NRES.* Environmental conditions after planting were not favorable for providing an adequate amount of moisture to developing bulbs as northern Illinois experienced a drier than normal fall/winter season and snow cover was minimal.

If moisture levels had been in the normal range, bulb development should have been more pronounced in regards to size and weight. Based on data collected, the top three performers for the 2002-2003 season with regards to bulb weight at cured stage were (1) Korean Red, (2) Floha and (3) Leningrad.

There were several cultivars that did poorly. The poorest performers were Mucdi and Pitarelli, which developed only to the “round” stage. Other poor performers were Chet’s Italian and Polish Softneck, which had a few fully developed bulbs but the majority of bulbs never initiated clove separation. Other cultivars, such as Polish White, Kettle River Giant and Inchelium Red, produced bulbs with clove separation, but their bulbs were small and their average weight was extremely low.

Table 1. 2003 Garlic Harvest Data

Cultivar	Qty. of Harvested Bulbs	Total Weight in Ounces		Average weight per bulb (Oz.)
		At Harvest/Green	Dried & Trimmed	
Korean Red	9.8	39.2	15.2	1.6
Floha	10.0	37.6	13.6	1.4
Leningrad	9.5	32.4	13.2	1.4
German Red	7.8	24.0	10.0	1.3
Music	10.5	40.4	12.8	1.2
Rosewood	9.3	28.0	11.2	1.2
Northern	9.0	29.6	10.4	1.2
Carpathian	8.3	23.6	10.0	1.2
Italian Late	9.3	30.0	10.0	1.2
Purple It. E-Z Peel	9.3	30.4	11.6	1.2
German White	10.3	42.8	10.0	1.0
Romanian Red	8.5	26.4	8.8	1.0
Spanish Roja	8.3	20.4	8.4	1.0
Chesnok Red	10.3	26.0	8.8	0.9
Asian Tempest	10.0	26.0	8.0	0.8
Creole Red	9.5	26.8	8.0	0.8
Choparsky	8.0	18.0	6.0	0.8
Inchelium Red	9.8	10.8	5.6	0.6
Red Toch	9.5	13.6	5.6	0.6
Kettle River Giant	7.0	8.8	4.4	0.6
Polish Softneck	7.0	6.8	3.2	0.5
Chet’s Italian	8.3	7.2	2.8	0.3
Pitarelli	3.8	3.6	1.2	0.3
Mucdi	6.3	5.6	.4	0.06

Ranked in descending order of cured bulb average weight based on average of 4 replications.