

Organic Garlic Growing Trials in Ontario

by: *Paul Pospisil, Master Gardener*

The Small-Plot Garlic Variety Trials are a unique research project. Conducted using organic methods suitable for home and market gardens, they evaluate survivability of garlic in a harsh climatic region, include strains from all varietal groups, and compare performance of strains against control standards, among many things. The trials are personally funded with no government financial support.

When I started the trials in 1991, I adapted the organic practices followed in our small market garden at Beaver Pond Estates to the garlic project.

The Part 1 trials were necessary to meet the need for cultural information on garlic. Gardening books have sparse and often misleading growing information on this plant. The few growers in the business at the time were secretive, hoarding their techniques like national secrets. Such a situation with respect to one of the most health-promoting vegetables was unacceptable as there was a consumer demand for locally-grown garlic at the newly-formed farmers' markets across the region.

The first five years of the trials dealt with determining suitable cultural methods for the Zone 5a conditions of North-Eastern Ontario and getting this information out to prospective growers. This region, although not subject to extreme cold Canadian winters, is nonetheless a harsh climate. Situated at the juncture of two main weather patterns, winters frequently change from freezing cold to a mid-winter thaw, sometimes to the extent of triggering growth of dormant plants. A quick return to sub-zero temperatures results in winterkill of the new growth.

The climate can be disastrous to an overwintering crop like garlic.

The Part 1 trials provided information on techniques such as winter protection against thaw, raised beds, composting and use of green manures, as well as cultural approaches for planting depth and spacing, best planting and harvesting dates, scaping, harvesting and curing techniques and other data needed by gardeners.

The information from these trials was widely distributed through the pamphlet, "*Any Home Gardener Can Grow Garlic*", articles in rural newspapers, lectures entitled "*Growing Great Garlic*", the Master Gardener Program, courses at Algonquin College, education seminars and on-site clinics for would-be garlic growers.

In 1996, as a parallel activity to planning for the 1st Glorious Garlic Festival of Eastern Ontario, the trials were expanded to evaluate the suitability of various garlic varieties and strains. This was to encourage development of the garlic farm industry in this region by providing market gardeners with options for crop diversification.

This Part 2 of the trials, dubbed the "Small-Plot Garlic Variety Trials", evaluates different garlic strains from all varietal groups. Added strains are introduced each year.

A standardized methodology is used to enable comparison against proven control standards. Trials are carried out using the organic methods from the Part 1 trials.

One-third of our organic garden is assigned to garlic. The plot is rotated on a three-year cycle with the other crops. Each new strain is grown for three successive seasons to determine its survivability, adaptability to this climate and suitability for home or commercial growing.

Physical characteristics of plant height, harvest weight, appearance, colour, yield ratio, comparison of crop to seed ratios, maturity dates and other relevant grower information are recorded.

Over 100 strains have been grown and tested in the Part 2 trials to date.

Planting stock from proven strains is made available to interested growers, the proceeds being used to offset trial costs.

All garlic from the trials is "Certified Organic" by OCPP. This enables growers to diversify their crop while protecting the organic integrity of their farm. Since quantities of each strain are limited and bulk quantities cannot be supplied to commercial growers, starter 'nukes' of planting stock are offered which growers can then use to develop their own seed supply.

The growing methods developed in the trials are suitable for home gardeners, small commercial growers and market gardeners.

As well as evaluation trials, many question-specific growing experiments are carried out in the trials plot. A portion of the space is assigned to a "seed saver" plot for discontinued strains which are grown in nominal quantity only until heritage collectors can be found to preserve the seed supply.

Each year near the end of June, we hold a Garlic Field Day at the trials site. This enables growers to see the various garlic strains at the optimum stage of growth, enabling comparison of physical characteristics.

The trials have yielded a wealth of information from observing the behaviour, or often, misbehaviour, of this strange and fascinating plant.

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