

## Taking Another Look At Globe Artichokes At Virginia Tech

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Many readers may be familiar with globe artichoke, an herbaceous perennial and relative of thistle harvested for its immature flower buds. The market for this crop is dominated by California, which has several coastal areas amenable to perennial production of this unique crop. In recent years, annual production of artichoke in the desert areas of California and Arizona has grown, where off-season production under cooler winter temperatures is employed.

There has been historical interest in growing artichokes on the east coast, and annual production has been evaluated in Connecticut, New York and here in Virginia. In the early 1990's, Dr. Welbaum at Virginia Tech found that annual production was possible, but early plant mortality (10-20% or more) and unproductive plants kept yields down. A key to productivity as Dr. Welbaum demonstrated, is exposure of young plants to cold temperatures or vernalization, which will later induce bud formation. With an early planting in mid to late April in the Blacksburg area, the plants received enough time at temperatures below a critical 50F to set buds at an acceptable level, but this environmental exposure was found to be related to variety, and not always consistent. Even with cold temperature exposure, a fair percentage (approximately 25%) of plants did not set buds. Also plants were not tested for winter survival, and the resulting potential for second year production, though plants have been known to survive in the region with protection.

This year we are re-visiting the potential of globe artichoke as an alternative for Virginia specialty crop growers. With a grower near the D.C. area reportedly doing well with direct marketing of a limited acreage of locally grown artichokes, we felt exploring means of enhancing productivity would be an important goal for research with this "new" crop, and help define its production potential.

This spring we implemented several experimental studies with artichoke. Treatments involve evaluation of over-winter protection methods, with studies being conducted at the Kentland AREC near Blacksburg, and at the Eastern shore AREC, with location being a variable in itself. Comparisons of soil mounding and floating row-covers to no-protection are being made at these two sites. Also in this study is an evaluation of 4 cultivars; 2 of which have not been tested in this region, and production on open-soil versus plasticulture is being conducted to gauge effects on transplant survival percentage.

In a separate study we are also evaluating artificial vernalization, by exposing transplants that are 7-8 weeks old, to two weeks of steady, cool temperatures in a lighted growth chamber. In addition we are evaluating the use of the growth regulator gibberellin in the field, which has been reported to induce bud formation and uniformity in desert area studies.

Hopefully through this work we can increase the percentage of budding plants, making artichokes a more profitable annual option. In addition, if we can successfully over-winter plants in our Virginia east or west climate, the capacity for increased yields from a single planting will be greatly increased.

*Originally printed in Virginia Vegetable, Small Fruit and Specialty Crops – June 2002.*