

Organic Blueberry Production and Promise

William J. Sciarappa, Ph.D.
Agriculture & Resource Management Agent
Rutgers Cooperative Extension
PO Box 5033, 4000 Kozloski Road
Freehold, NJ 07728

Introduction - When wild blueberries were first selected and cultivated in the early 1900's, farming practices were essentially organic in nature. Early farmers established effective cultural practices, initiated mechanical weed management and took advantage of naturally occurring biological controls. Four developments in the last decade significantly amplify opportunity for organic growers to grow certified organic highbush blueberry (*Vaccinium corymbosum*) successfully and to increase or transition certified acreage.

First, there was the recent USDA national organic standardization that defines organic production practices and crop labels (USDA-NOP, 2002) that created clarity and evened competition. Second, we have the continued increase of smallfruit and vegetable sales related to nutritional and human health reasons (Brazelton, 2004) that strongly contribute in creating the \$83,720,000 highbush blueberry market in NJ. (Joshua, 2006). Future gains in this emerging agribusiness segment are promising through the "organic certification" process. This USDA certified organic designation appeals to today's consumer as an even higher value and creates a separate market segment above the fresh market mainstream. Third, new organic tools have become available that reduce the risk from pest problems such as the EPA-NOP registration of spinosad – now known as Entrust in the organic trade. Finally, the Rutgers Blueberry Working group has made considerable progress in refining standard IPM practices and in helping develop new tools for organic production systems. Examples include:

- Weed Management – weed suppression between rows with plantings of fescue cultivars
- Weed Management – weed suppression within rows with landscape fabric, mulch and mowing.
- Soil Management – organic compost from various sources within the planting trench.
- Water Management – trickle irrigation to minimize leaf wetness and diseases.
- Disease Resistance – cultivar comparisons of disease susceptibility.
- Organic fungicides – OMRI approved materials for botrytis and other pathogens.
- Organic insecticides – Entrust/spinosad formulations for blueberry maggot and other pests.
- IPM systems - pheromone trapping and monitoring.
- Above ground, bagging systems with organic media.

Objectives - The general goals of this 14 year program were largely achieved to fill the primary production gaps in organic blueberry production with science-based research,

to reduce risk and help develop an integrated crop management system for organic growers not only in New Jersey where the trials were conducted but to use applicable parts and conceptual approaches in any production area. The main objectives were to investigate viable solutions for organic weed, insect and disease management and to compile, compare and incorporate proven horticultural practices into a sustainable production system for highbush blueberry

Results of this 15-year study in sustainable, organic pest management programs will be discussed further and provided as a handout in this session from the chapter “Organic Blueberries” by Bill Sciarappa within the book “Blueberries for Growers, Gardeners, and Promoters” by Drs. Childers and Lyrene, Editors. Small plot and grower demonstrations are evolving these various organic approaches worldwide to a comprehensive organic production system based on phenological factors and soil health. East coast, west coast, Canada, South America, Europe and Africa utilize some of these suggested practices as certified organic blueberry acreage steadily increases to meet local, national and global market demand.

With this increase in knowledge, experience and organic tools, conventional growers are switching to organic production in record numbers. Certified organic operations have doubled in the last ten years and now stand at over 10,000 farms in the United States (Organic Trade Association, 2011). Over 5% of apples; 10% of California strawberries, 15% of west coast grapes are organic, and a rise from 0 to 150 acres of organic blueberries in the New Jersey area has occurred (Sciarappa, 2008). In the northeast USA market, a ten pound flat of organic blueberries will return \$18 to \$25 compared with \$8 to \$14 for conventional product. This economic situation creates a strong incentive to transition towards organic agriculture, especially if a production system has well-defined procedures, manageable risks and appropriate returns.