



Wild Blueberry Commission OF MAINE

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MAINE WILD BLUEBERRY INDUSTRY RESEARCH AND EXTENSION PRIORITIES November 2015

Cropping System Management

1. Study the effects of climate change on integrated crop management systems.
2. Determine the level of genetic variation occurring in wild blueberry in response to environmental changes.
3. Determine what input changes are needed to adapt to climate change effects occurring in wild blueberry growing areas.

Plant Nutrition – Nutrient and Carbon Cycling

1. Study soil and plant biology, and cycling between wild blueberry plants including the mycorrhizal association and the organic pad.
2. Understand how current management practices for example, pruning methods, affect nutrient cycling.
3. Understand soil and fertilizer/additives efficacy and interactions that:
 - inhibit nutrient uptake or cause nutrient fixation in the soil – e.g. due to nutrients binding to soil on gibbsite so that the nutrients are unavailable.
 - affect cation exchange capacity or changes soil pH and nutrient availability to the plant.
 - promotes flower development, plant and rhizome growth.
 - increase insect/pathogens/pest vulnerability.
 - perennial crop system – fertility management during crop per year.
4. Map soil types, nutrients and different application methods that affect soil health, crop fertility and lead to more effective fertility management.

Pest Management Systems

1. Expand the knowledge of the biology and ecology and management of existing and potential wild blueberry pathogens and diseases including mummyberry, *Valdensinia*, and *Septoria*, leaf rust.
2. Test and evaluate disease control methods to improve the efficacy of organic and synthetic control materials.
3. Research and develop new or revised methods for controls and pesticides for new and resistant insects, weeds and diseases.

4. Investigate multiple pesticide options and alternatives including reduced risk materials (i.e. class C fungicides) and review effectiveness of older chemistry for pest control.
5. Evaluate weed management options and continue screening herbicides for effectiveness.
6. Study the biology and ecology of beneficial insects and insect pests.
7. Determine best management practice to manage pests and crop while protecting pollinators.
8. Study the effect of the Wild Blueberry Integrated Pest Management on pollinator health and security.
9. Understand the biology, ecology and control of spotted wing Drosophila and other emerging invasive species.
10. Determine how management of spotted wing Drosophila affects other pests.
11. Evaluate the effectiveness of cultural, biological and synthetic insect control options and prioritize reduced risk materials in the context of an Integrated Crop Management (ICM) system.
12. Revise/update ICM protocol including monitoring and management thresholds with changes in crop protectant use.

Production and Processing Food Safety

1. Evaluate the pre-harvest food safety of animal/pests on the crop.
2. Investigate new options to maintain and improve the post-harvest food safety for wild blueberries.
3. Research post-harvest methods to reduce microbial loads on frozen processed wild blueberries.
4. Determine the health benefit of wild blueberries antibacterial properties in the digestive system.
5. Investigate quality control and food safety for fresh pack related to Good Agricultural Practices.

Education

1. Provide recommendations from research results through the Wild Blueberry website, wild blueberry meetings, and ICM field days.
2. Provide education and recommendations to growers about advances in ICM practices.
3. Determine best management practice for wild blueberry growers and determine site specific ICM practices related to factors including but not only soil, environment and climate change trends.
4. Offer food safety training for fresh pack operators to comply with federal and state standards.
5. Develop wild blueberry budget model to better understand production practices, inputs, and risk management.