Optimizing Pollination on our Blueberry Farm

Rachel Gray - Owl’s Head Blueberry Farm

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History of Pollination Practices at our farm

- Overview of pollination practices at Owl’s Head Blueberry Farm
- Pollination study with UVM
- Our pollination plan before this year

Surrounding acreage

- Fields - we have 5 acres of blueberries and about 20 acres of open fields. Fields have three streams intersecting them. Lots of golden rod, Josie pye-weed, some clover
- Before blueberry bloom - 20 crab apple trees.
- Started growing Sunflowers

Spring 2021 Observations

Where are the pollinators?!

- Noticing very few pollinators
- Panic sets in! Contacted Vern and the Gund Institute
- Researched hives and ordered 2
- Continued to observe and make notes about # of pollinators present in fields.

Bumblebee busy pollinating on May 23, 2021

Bumblebee Hives

- Determine how many hives needed for sq footage/acreage
- Allow time for shipping & for the bees to get settled.
  - Most hives take about a week to ship, 24 hours for bees to come out of hive.
  - Determine hive location(s) out of direct sun.
- https://www.koppertus.com/quad/
  - I ordered from Crop King bc of fastest shipping
- Potential to move hive/share with another farm.

Farm Practices that impact pollination

-Pesticide Application

-Mowing practices

-Cover cropping for pollinators

-Habitat planting on field edges

-Different theories on what happened in 2021, common theory seems to be timing was off with bloom and queen bees readying their hives.

Pasture Management

Impact on Pollinators

- Transitioning our fields from mowing to sheep pasture.
- Trying to be aware of the impact that change may have on our pollinator population
- Utilization of pasture grants to help pollinators.
- PSWF and CREP grants - plantings along stream banks.

Pasture Plantings that are beneficial for Pollinators

Determine times when less plants are blooming near us and increase plantings during those months.

TABLE 11.1. Beginning blooming periods for pollinator floral resources.

Beginning Bloom Periods*	Plants
Late April / Early May	Willow shrubs (different varieties), speckled alder, maples, Siberian squill, daffodils (near house foundation).
Early to Mid-May	Plums, cherries, Cornelian cherry dogwood, honeyberry, currants, gooseberries, saskatoons, chokecherry, lungwort.
Mid to Late May	Apples, pears, blueberries, clove currants, Jacob's ladder, narcissus, ajuga, dandelions, creeping Charlie, creeping phlox, bistort superba cultivar, dyer's alkanet.
Late May / Early June	Aronia, lilacs, bleeding heart, invasive honeysuckle, Labrador tea, lily of the valley, buttercup, iris, peony.
Early to Mid-June	Dogwoods (red osier, yellow-twig, and pagoda), highbush cranberry, nannyberry, chives, lupine, black cherry, black locust, wild raspberries and blackberries, wild phlox, comfrey, ninebark, baptisia, clovers.
Late June / Early July	Virginia rose, clovers, primrose, catnip, mountain ash, hawthorn, common milkweed, swamp milkweed, lady's mantle, forget-me-nots, centaurea, basswood, sumac.
Early to Mid-July	Greenhouse raspberries, silky dogwood, yellow loosestrife, meadow rue, blue vervain, bee balm, butterfly weed, wetland rose, Saint-John's-wort, Queen Anne's lace, echinacea.
End of July / Early August	Buttonbush, globe thistle, early goldenrod, joe-pye weed, boneset, peppermint, flat-topped aster.
Mid-August to Early September	Late goldenrod species, sneezeweed, purple asters, New York ironweed.
Late September to October	Maximilian sunflowers, sunchoke, witch hazel, late aster.

* Most plants have a peak bloom for a few weeks. Others, such as creeping Charlie, can bloom

Monitoring Pollinators

- Develop a system for monitoring pollinators:
  - Observe certain bushes for a set amount of time
  - Record # of pollinators and # of different variety of pollinators
  - Use a laminated white piece of paper to identify species

In Conclusion

-Do your research ahead of time.
-Know where to buy hives & be ready to order if needed.
-Create a monitoring system that is consistent.
-Track bloom dates and pollinator rates.
-Be aware of your resources.
-Hope everyone has a great 2022 Season!

Pollinator Support Contacts

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For questions about pollinators and supportive practices for farms and managed landscapes:

- **Laura Johnson**, *Pollinator Support Specialist*, laura.o.johnson@uvm.edu, 802-476-2003 **x**222
- Extension Pollinator Program website: https://www.uvm.edu/extension/pollinator-resources

For questions on pollinators and pesticides:

- **Ann Hazelrigg**, *Plant Diagnostic Clinic Director*, ann.hazelrigg@uvm.edu, 802-656-0493

For questions on pollinator habitat plants in gardens and high tunnels:

- **Cheryl Frank Sullivan**, cfrank@uvm.edu, *Entomology Research Laboratory*, 802-656-5441

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Other Pollinator Resources

Wild and managed pollinators on farms and managed landscapes:

- Gund Institute for Environment – Taylor Ricketts and the Ricketts Lab
- The Xerces Society for Invertebrate Conservation
- The Vermont Center for EcoStudies - Spencer Hardy, shardy@vtecostudies.org

Honey bee resources:

- The Vermont Bee Lab – Samantha Alger, salger@uvm.edu
- Vermont Agency of Agriculture, Food and Markets Apiary Program – Brooke Decker, brooke.decker@vermont.gov
- Vermont Beekeepers Association

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XERCES SOCIETY

VERMONT CENTER FOR ECOSTUDIES
VERMONT ATLAS OF LIFE

Vermont Bee Lab

VERMONT AGENCY OF AGRICULTURE, FOOD & MARKETS www.Agriculture.Vermont.gov

Vermont Beekeepers Association ...since 1886

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