

Using Phenology to be a Better Beekeeper

Practical Farmers of Iowa Lightning Talk

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Phenology and Me



- RR4 Polk County
- Bees since 2008, 2011
- Des Moines Backyard Beekeepers in 2012
- Teaching since 2014

Teaching in 2014

Identification skills were lacking

Realization that not all flowers were equally valuable for honey bees

No reference material existed for a book that everyone wanted in tying plants to beekeeping (and more success) for Iowa



NC SARE Farmer-Rancher Grant

NORTH CENTRAL
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Sustainable Agriculture
Research & Education

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Phenology

Definition:

the study of cyclic and seasonal natural phenomena, especially in relation to climate and plant and animal life.

Plant potatoes when....

Seasons and
Other almanac sayings

This project focused on native plants and trees

Phenology Planners

People from across the state sent me bloom dates of different species in 2021

All the dates and species were organized into a planner and we used it in 2022 to help us be better beekeepers



Avoid Missed Cues and Opportunities by looking at nature (phenology)

- Swarms
- Increasing through splits
- Nectar and pollen flows
- Specialty or varietal crops
- Times of dearth would be opportunities for native, drought-tolerant plants for bees



Phenology observations could encourage resilience for climate change

- Honey bees are from Europe and so are the plants they evolved with
- White dutch clover vs. butterfly milkweed example
- Natural positive impacts on soil and water quality



Identification skills for nectar flows

- Varietals / monocultures yield higher prices
 - Linden or basswood honey
 - Goldenrod honey
 - Etc.
- Anticipate your needs for time management, woodenware, and bottling



Diverse forage advantages

- Identifying dates with forage gaps by using the planner / awareness
 - Add plants to fill any blooming date gaps
 - Plant diverse to attract all pollinators
 - Plant diverse to increase colony health



Identification skills get you ready for population booms

- Early pollen helps you prepare for and maximize the emerging work force ahead of the first nectar flow
- Anticipate swarming
- Work with bees' instincts and split their colonies



Next step to
easy

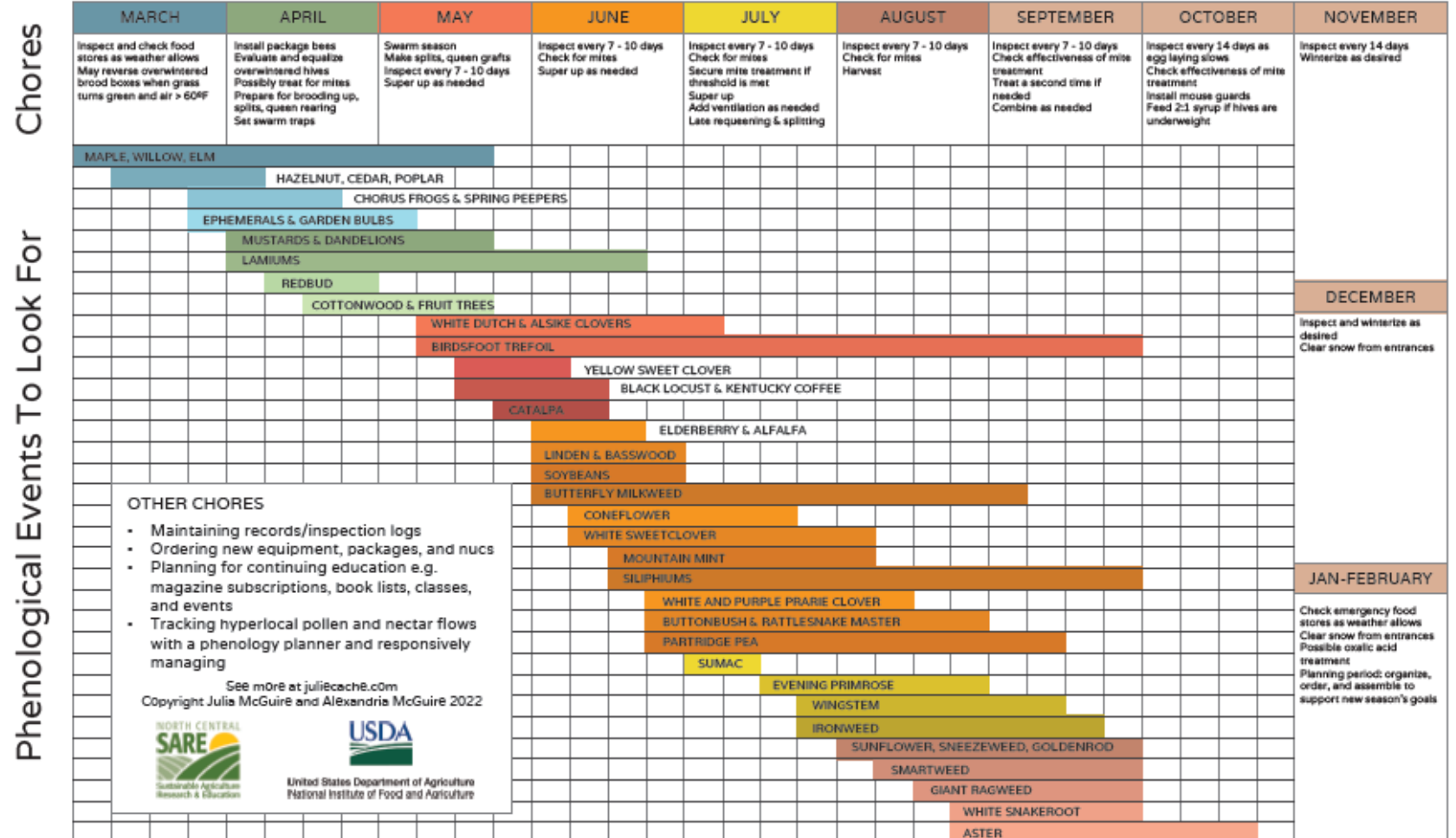
Phenology Calendar FRONT

- Graphic
- Visual

A Beekeeper's Year

The Prairie Edition

While dates of phenological events may vary according to your bee yard's geographical location and microclimate, the order of events will be the same.



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Next step
to easy

Phenology Calendar BACK

- Text (word)
based
- Tactile

Phenological Events To Look For

It is recommended to verify all species with a reliable field guide (digital or paper)

JANUARY & FEBRUARY	No phenological events
MARCH	Maple, Willow, Elm, Hazelnut, Cedar, Poplar, Chorus Frogs And Spring Peepers, Ephemerals And Garden Bulbs
APRIL	Maple, Willow, Elm, Hazelnuts, Cedar, Poplar, Chorus Frogs And Spring Peepers, Ephemerals And Garden Bulbs, Mustards & Dandelions, Lamiums, Redbud, Cottonwood & Fruit Trees
MAY	Maple, Willow, Elm, Ephemerals, Garden Bulbs, Mustards & Dandelions, Lamiums, Cottonwood & Fruit Trees, Birdsfoot Trefoil, White Dutch And Alsike Clover, Black Locust, Kentucky Coffee Trees, Yellow Sweetclover, Catalpa
JUNE	Mustards & Dandelions, Birdsfoot Trefoil, White Dutch And Alsike Clover, Black Locusts, Kentucky Coffee Trees, Yellow Sweetclover, Catalpa, Linden & Basswood, Soybeans, Elderberry & Alfalfa, Butterfly Milkweed, White Sweetclover, Coneflower, Mountain Mint, Silphiums, White And Purple Prairie Clover, Buttonbush, Rattlesnake Master, Partridge Pea
JULY	Birdsfoot Trefoil, White Dutch And Alsike Clovers, Butterfly Milkweed, White Sweetclover, Coneflower, Mountain Mint, Silphiums, White And Purple Prairie Clover, Buttonbush, Rattlesnake Master, Partridge Pea, Sumac, Evening Primrose, Ironweed, Wingstem
AUGUST	Birdsfoot Trefoil, Butterfly Milkweed, White Sweetclover, Mountain Mint, Silphiums, White And Purple Prairie Clover, Buttonbush, Rattlesnake Master, Partridge Pea, Evening Primrose, Ironweed, Wingstem, Sunflower, Sneezeweed, Goldenrod, Smartweed, Giant Ragweed, White Snakeroot, Aster
SEPTEMBER	Birdsfoot Trefoil, Butterfly Milkweed, Silphiums, Partridge Pea, Ironweed, Wingstem, Sunflower, Sneezeweed, Goldenrod, Smartweed, Giant Ragweed, White Snakeroot, Aster
OCTOBER	Aster
NOVEMBER & DECEMBER	No phenological events

Beekeeping Chores

JANUARY & FEBRUARY	Check emergency food stores as weather allows Clear snow from entrances Possible Oxalic acid treatment Planning period: Organize, Order, and assemble to support new season's goals
MARCH	Inspect and check food stores as weather allows May reverse overwintered brood boxes when grass turns green and air temperature over 60°F
APRIL	Install package bees Evaluate and equalize overwintered hives Possibly treat for mites. Prepare for brooding up, splits, queen rearing Set swarm traps
MAY	Swarm season Make splits Queen grafts Inspect every 7 - 10 days Super up as needed
JUNE	Inspect every 7 - 10 days Check for mites Super up as needed
JULY	Inspect every 7 - 10 days Check for mites - secure mite treatment if threshold is met Super up, add ventilation as needed Late requeening and splitting
AUGUST	Inspect every 7 - 10 days Check for mites Harvest
SEPTEMBER	Inspect every 7 - 10 days Check effectiveness of mite treatment Treat a second time if needed Evaluate hives; combine as needed
OCTOBER	Inspect every 14 days as egg laying slows Check effectiveness of mite treatment Install mouseguards Feed 2:1 syrup if hives are underweight
NOVEMBER	Inspect every 14 days Winterize as desired
DECEMBER	Inspect and winterize as desired Clear snow from entrances

Phenology Calendar

Organized differently for different types of learners

Same information on both sides

Fingers crossed for better management, increased success in 2023



Stay in touch

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