Botany for Beekeepers

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Regenerative Kinship Ethics- *Centers on the Value and Empowerment of People, Plants, and Pollinator Health through beneficial and mutualistic interaction with our shared landscape.*

Native Plants

Offer supreme benefits to the entire pollinator community. Native pollinators have co evolved with these plants developing mouthparts and the ability to specialize their foraging efforts in support of entire plant communities. These plants are crucial to not only native wildlife and insects but the cultural landscape of the bioregion. When Native plants are present in the habitat it allows native Bees to focus and specialize their foraging habits on the species they have evolved alongside decreasing pressure on any one source of nectar. This healthy competition allows for specialization and greater floral fidelity. (see attachment for bioregional plant list)

Medicinal Herbs

Holy Tulsi Basil	Lemon Balm	Bee Balm
Oregano	Thyme	Comfrey
Marshmallow	St. Johns wort	Self Heal
Dandelion	Calendula	Linden
California Poppy	Scullcap	Passionflower
Hawthorn	Elderberry	Lavender
Mint spp.	Chamomile	Rosemary
Basil spp.	Valerian	Anise Hyssop
Vitex Chasteberry	Catnip	Red Clover
Alfalfa	Parsley	Dill
Elecampane	Sunchokes	Yarrow
Echinacea	Oregon Grape rt	Sage spp.

Cultivated Flowers & Shrubs-

Zinnia	Hollyhock	Aster
Mexican Marigold		Marigold
Calendula	Gillarda	Black-eyed Susan
Sunflower	Scabiosa	Campanula
Helenium	Cosmos	Phlox
Stonecrop	Echinops	Snapdragon
Crocus	Lily	Snowdrops
Petunia	Alyssum	Salvias

Bee centered Cover crops - We consistently rotate crops in our fields and we try to use cover crop to feed our land's overall pollinator potential.

Buckwheat	Phacelia	Alfalfa
Vetch	Sweet pea	Clover (crimson,sweet,red,alsike)
Mustard	Daikon Radish	Bunch Grasses for ground nesting habitat

Biodynamic Mowing Practices-

When ¾ of the blooms have cinesed, set the mower deck as high as possible and mow in the early eve. This will force multiple blooms. Allow cuttings to mulch where they fall. Succession planting of cover crops and bee loving annuals will also enhance pollinator health if timed for your bioregional nectar and dearth cycle.

Heritage Fruit Trees-

Fruit trees offer the most amount of nectar per square footage. Old heirloom varieties are endangered as their hybridized ancestors replace them. This monoculture destroys biodiversity. Heritage fruit trees offer diverse blooming times, unique fruits, more bee centeric flower structure and enhance biodiversity in the landscape. All while providing food for your harvest as well! The grafting of fruit trees from scion to rootstock is the cheapest way to enhance bioregion varieties. Beekeepers throughout history have been some of the greatest orchardists of all time! Check out the Felix Gillet Institute for history and heirloom fruit varieties.

Medicinal Herbs for both People and Pollinators

Medicinal Herbs benefit People and Pollinators. These Relatives with roots are nutrient dense and contain chemical constituents that promote healing and well being. By making several cuttings you can orchestrate blooming times, and retain the harvest for Teas, Tonics and Tinctures. We Continue cutting medicinal and culinary herbs delaying flowering until the late summer, early fall dearth and then we let everything go to flower when Bees need it most. Dried Herbs are an amazing Smoker Fuel that produces cool calming smoke. Leftover teas or herbal infusions can also be used to make your sugar syrups for seasonal feeding. These teas offer medicinal value to a bees diet as well as your own. Medicinal and Culinary herbs are healing for people and pollinators.

Herbal Teas - (infusions/decoctions) **1 Oz of fresh or dried herbs 32 Oz of water**

Infusions- *Delicate aerial plant parts (leaves, flowers, fresh berries)*

- *Put herbs into a glass jar, fill with boiling water, cover let sit 20 mins- overnight (longer=stronger) Strain*

Decoctions- *Woody, Hardier plant parts (roots,bark,seeds,dried berries)*

- *Put herbs in Covered Saucepan, Simmer 20-45 mins, Strain*

Smoker Fuel Herbs- *Lavender, Lemon balm, Chamomile, Bee balm, rosemary, Creosote Bush (larrea), mugwort, artemisia, sage, Tulsi, mint, Eucalyptus, Citrus peels.... Place herbs in a small paper lunch bags to dry, pack the whole bag into your smoker when dry. Don't forget to put a little fresh grass on top to keep it cool!*

Bee Teas- *Use herbal infusions of Lemon balm, chamomile, linden, Bee balm or Mint as the water you use to make sugar syrup for seasonal feed.*

Natural Lure- *I have anchored the success of my beekeeping practices through the exciting adventure of swarm catching and bait hives. I have found through careful observation that the traditional lemongrass lure can be potenized through the additions of other citral centered essential oils. As the Queen pheromone contains multiple citrals. Try adding essential oils of lemon balm, lime, sweet orange and or lemon verbena. Creating a multi citral lure I can tell you from experience is a game changer!*

Land Management Practices centered on Kinship ethics

1.Planting for Floral fidelity- Using the Bees natural proclivity to gather from the same species of forage until that source is exhausted informs us to plant accordingly in at least 3ft clumps of one species.

2.Selecting Mutually Beneficial Species- Some plants feed our common needs and desires, and aid common key life processes more than others. Learning to select these varieties is especially beneficial to regenerating our evolutionary kinship. Getting to know Plant families and Plant Genus characteristics can greatly improve our ability to identify and select species based on our zone and bioregional needs.

3.Ease of Harvesting- our management directly relates to how prolific plants can thrive. If we are to harvest for our own needs, harvest to prolong blooms or be able to practice biodynamic mowing we need good access.

4.Chop & Drop- To effectively build soil health,feed microflora in the soil and invigorate plants we manage growth by pruning and then mulching plants with their pruinings and clippings.

5.Succession Planting & Harvesting- For most plants flowering occurs at relatively the same time, typically around the summer solstice. When centering your focus around regenerating kinship practices we realize the effects of the dearth times on pollinators. In this light we prolong blooming times by harvesting for our own needs during this flowering season as forage is readily available. We allow our plant community to flower in dearth times so that we fill the gaps nutritionally. We also successively plant/ mow cover crops so that flowering will time with the dearths. We allow seasonal crops to bolt and feed bees as well. (i.e greens/brassicas/etc)

6.Habitat for Ground nesting Bees- We are mindful of the ground nesting pollinators' need for habitat. We maintain adequate habitat cover through wild clumping grasses, mulch and buffer zones. We practice low till bed preps. We Mow systematically to allow areas to rest and always set the mower deck to high to offset damage to nests.

7. Maintain wild Buffers & Native Meadows-
By allowing leaf cover, natural meadows and wild buffers we enhance habitat for Native pollinators and wildlife free from management.

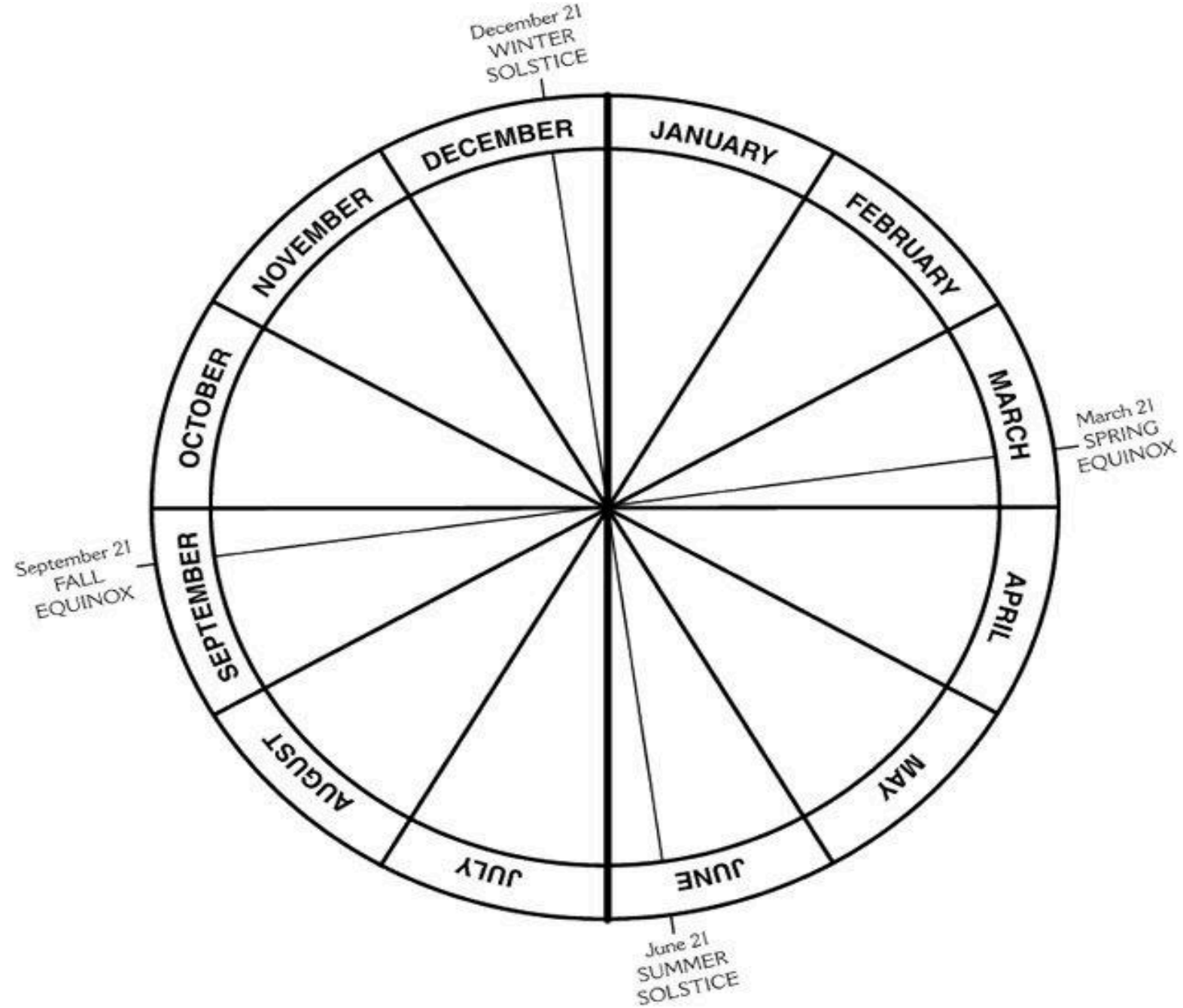
8.Water- We believe Water is life! Know your watershed and become an active steward! We maintain pristine Riparian corridors with proper leaf cover, native plant communities, fallen logs and debris that provide important nesting sites for pollinators and wildlife. We do not allow livestock to infringe upon these important areas of our land that feed biodiversity and wildlife!

9. Maintain Pesticide Free environment- Understand the insidious effects pesticides, fungicides, and Genetically modified crops have on People, Plants and Pollinators. Manage and maintain land and garden with least exposure possible. If you are in an urban setting your relationship to Plants and Pollinators will inform you that your welfare & responsibility lie beyond your location. People must organize and orient around their background exposure to pesticides and the land and watershed practices beyond...

10.Biodiversity- Biodiversity is the ultimate antidote to all issues facing the health and well being of life on earth! All species require biodiversity to maintain their biological best! Remaining flexible and devoted to exploring the ways in which we can be an instrument for the betterment of Nature. Our ecosystem is the vessel in which all cups overflow with life. Creating and sharing biodiversity with others is a revolutionary act in a modern world. By building bridges of nourishment and the fruition of the highest ideals of community and culture. Biodiversity is a consciousness that extends beyond our Bees, our Botanicals and boundaries and to the core of who we truly are.

Bee centric Native Plants Picks
For Cascadia bioregion

Elderberry (Sambucus spp.) red/blue
Thimbleberry (Rubus parviflorus)
Salmonberry (Rubus spectabilis)
Evergreen Huckleberry (Vaccinium ovatum)
Wintergreen (Gaultheria ovatifolia)
Salal (Gaultheria shallon)
Pacific trailing Blackberry (Rubus ursinus)
Blueblossom (Ceanothus thyrsiflorus)
Coyote Brush (Baccharis pilularis)
Hairy Manzanita (Arctostaphylos columbiana)
Oceanspray/Ironwood (Holodiscus discolor)
Oregon Grape (Mahonia spp.)
Serviceberry (Amelanchier alnifolia)
Western Redbud (Cercis occidentalis)
California Aster (Corethrogyne flaginifolia)
Kinnikinnick (Arctostaphylos uva ursi)
California Bay Laurel (Umbellularia californica)
Flowering Currant (Ribes spp.)
Indian Plum/ Osoberry (Oemleria cerasiformis)
Pacific Ninebark (Physocarpus capitatus)
Mock Orange (Philadelphus virginalis)
Big Leaf Maple
Vine Maple
Madrone
Cottonwood



Wheel of the Year
Planter's Calendar

Additional Links-
My farm
www.wildeverlasting.com

Sun Queen School of Apiary arts
www.wildeverlasting.com/sunqueen

Facebook Sun Queen Student Community
www.fb.me/sunqueenschool

Instagram
www.instagram.com/beekeepingbotanist

My Linktree with links to all my current projects!
https://linktr.ee/Beekeepingbotanist

Bonus Inspiration! An Amazing Article about Serviceberry and Reciprocity with Nature by Robin Wall Kimmerer

https://emergencemagazine.org/story/the-serviceberry/