

# Beekeeping Management Calendar for Spokane Area

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# About Beekeeping Calendar

- Beekeeping Calendar dependent upon weather
- Beekeeping actions are keyed to state of colony
  - Brood rearing
  - Food available
- Generally plant bloom dates fairly consistent
- Action dates keyed on certain honey plants
- Colony growth is ultimate guiding principle

# Start of Calendar Year

- January the colony needs to be left alone
  - Good time to get new equipment made
  - Make plans for year
  - Order equipment and materials
  - Need to have everything available and ready
- February
  - Often we have some good warm flight weather
  - Check hive weights
    - Add frames of honey to light hives
    - Steal honey from heavy hives
  - Do not feed syrup as bees cannot process
  - Candy board or granulated sugar can be used in an emergency

# March

- March is the first month pollen is available
  - Alders are usually the first pollen
  - Pussy willow and willows are next
- Bees need to be checked carefully for adequate honey stores
  - Should have at least four frames of honey
  - Positioned above cluster
  - Feed with frames of honey is best
  - If you have no honey use candy board
  - Pollen supplement can be fed
    - Probably early
    - Place in contact with cluster
  - Small colonies (1 to 3 fr) best combined into larger colonies



Alder



Pussy Willow

# March(cont)

- Hive strengths will usually vary
  - Boomer hives need to be used to strengthen weaker hives
  - As brood frames become sealed
    - Can move sealed frames from strong hive to weak hive late March
    - Add only what can be covered by bees in the weak hive when the bees are in a tight cluster
- Goal is to have all hives the same strength by early June
- Late in March a light syrup may be added if the weather is typically in the 50's during the day
- Only the strong colonies should be fed this early
- Pollen supplement can be added but probably is not that important as pollen should be readily available
- Make certain that you have at least 4 frames of honey near the cluster

# April

- Major honey plants: dandelion, maple
- Medicated Feeding
  - Should use 1:1 sugar:water either volume or weight with Fumigillin-B as per the mfg formula
  - Best to feed by n. ceranea rules ie 1/4 feed per week for 4 weeks
  - Feed stronger colonies first when day time temperatures are in the 50's (strong colony >8fr of bees)
  - Strong colonies will readily take the feed (easily 1Gal per day)
  - Try putting feed on weaker colonies on 60 degree days but take feed off if they won't take it
- Packages
  - April is the month to start packages
  - Packages must be fed light syrup continuously until late May early June
  - Feed Fumigilin-B using n. ceranae rules
  - Check queen's egg laying at least once/week
    - First month is critical
    - Drone layers usually show up within first month
  - Any queen cells being built is cause to replace queen
  - Feed pollen supplement if pollen is not available



Dandelion



Maple

# April (cont)

- Weak colonies
  - Colonies with less than three frames of bees should be combined
    - Combine with other small colonies into 4 to 8 frame colony or large colony
    - Kill any queens that are undesirable before combining
    - Shake each frame of the colony into the receiving colony
  - 4 Frame colonies can be saved if the queen is good
    - Queen should be laying good solid pattern
    - Strengthen
      - Switch positions with strong colony
      - Shake bees off brood of strong colony into weak colony after queen is located
  - Keep at least 4 frames of honey on colony
  - Feed with candy board if they will not take syrup
- Best to combine small colonies early and make splits later of the large colonies
- Large colonies also benefit by reversing boxes
  - Reverse only if queen is not laying in the bottom box
  - Gets empty frames to top of hive
  - Provides egg laying room of bottom frames
- Check egg laying of queen weekly making certain queen is viable

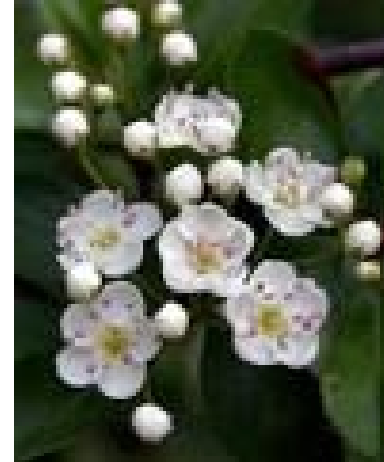
# April (cont)

- Nucleus colonies
  - Can be started as soon as queens are available
  - Generally towards the end of April and early May
  - Large colonies
    - Locate queen
    - Remove frames of bees, brood and honey from several colony(s)
    - Put in new box, prefer a 5 fr box with 4 fr and feeder
    - Move to a new location 2 miles away or put in place of original colony
  - Feed light syrup and pollen supplement
    - Light syrup until they have sufficient incoming nectar
    - Best to feed Fumigilin-B by n. ceranea rules
    - Pollen supplement if no pollen is coming in
  - Check queen performance weekly



# May

- Major honey plants: Hawthorne, buck brush, locust, fruit, Oregon grape
- Large colonies
  - Feed light syrup if egg laying starts to falter
  - Feed light syrup and pollen supplement if no pollen is coming in
  - Watch strength
    - When population fills both brood chambers
    - Remove bees, brood and honey to nucleus colonies
    - Move nucs to new location or put in parent hive location
    - Remove brood to weaker colonies
  - Keep population from swarming
    - Hives that swarm often will not requeen
    - Often do not make it through the following winter
- Treat with formic acid pads per label instructions
  - Watch temperature 50 to 79°F
  - First 7 days must not have large maximum temperatures
  - Can feed during time pads are on hive
  - Must remain on hive for 21 days



Hawthorne



Black Locust

# May (cont)

- Packages
  - Continue feeding
    - Light syrup with Fumigilin-B until 4 week treatment is complete
    - Feed pollen supplement if pollen is not coming in
  - Varroa mite treatment can wait until August
  - Watch queen laying weekly
  - Give an additional brood chamber when
    - Brood chamber is stuffed with bees
    - When lid is removed bees should boil out
    - All frames should have bees covering both sides
    - Place new brood chamber with feeder on top of original brood chamber, feed



Oregon grape



Black Locust

# Good Queen Laying Pattern



Normal Pattern with some  
Missed Cells

# Supercedure Cells

- Packages often come with poorly mated queens
  - Usually show up within a few weeks of installation
  - Supercedure cells on face of comb
    - Queen cells made to replace queen
    - May be one or two or many cells
  - Drone eggs (unfertilized eggs) in worker cells
    - Queen has no stored sperm
    - Queen lays an egg that she releases a sperm for
      - In a worker cell
      - No sperm
  - Larva develops as a drone in a worker cell
  - Capping is dome shaped above worker brood
  - Often eggs are laid in poor pattern with many misses in comb

# Drone Laying Queen



Drone Brood in Worker Cells



Supercedure Cell

# May(cont)

- Nucleus hives can be made up from strong hives throughout May
  - Best swarm control method
  - Nucs should be made up with 1 frame honey, 3 frames bees and brood and 1 feeder early May
  - Late May Nucs can have 2 frame honey, 2 frames bees and brood and 1 feeder
  - Feed continuously light syrup w Fumigilin-B as per n. ceranea rules
  - Nucs made in first week of May with 3 solid frames of brood fill two boxes by July and make honey
- Equalizing colonies
  - Brood should be moved from strong to weak colonies
  - Make up nucleus hives to control swarming
  - Shake bees off capped frames of strong colonies and put in weak colonies
  - Make certain bees in receiving colony can cover frame in cold weather
- Check queens weekly
- Feed pollen supplement as required
- Treat nucs for varroa mite in August

# May(cont)

- Strong hives
  - Black locust blooms in May and can be significant honey flow
    - Add shallow super if combs on brood chamber show white frosting from wax deposits
    - Add super after top brood chamber has good amount of nectar but queen still has room to lay
    - Don't restrict population growth
  - Must watch swarming
    - Probably best not to add supers if the swarming impulse is still present
    - Best to keep removing brood and switching boxes if you still see swarm cells being made

# May (cont)

- Requeening is best done in May, June or July
- Best queens available after April in May and early June
- Requeen when old queen is not performing
- Best to have queen go through only one winter as we have so many issues with colony health and survival ie only 1 year old queens
- Some queens are fine to go through two years



# May(cont)

- Swarm cells
  - Presence of capped swarm cells
    - Can still stop colony from swarming if eggs are present
    - If no eggs present do not destroy swarm cells and put hive back together and leave alone—too late hive will swarm
  - Capped swarm cells eggs present
    - Locate queen and carefully set her and frame in safe place
    - Remove all frames with capped and uncapped brood and place together in one of the boxes, destroy all queen cells
    - Put queen in other box with frames of eggs, empty frames and some honey, destroy all queen cells
    - Put box without queen on bottom board and add an empty brood chamber or honey super above it.
    - Place screen board above and put box with queen above the screen board with the cover on top
    - Introduce a mated queen to bottom box in the center of the brood
  - Once new queen is laying and honey flow starts old queen can be killed and the two hives combined into one
- Can't find queen, capped cells and no eggs
  - Prepare the two brood chambers as above and don't worry about queen
  - Put box that will have queen on bottom board ie only eggs, honey and empty frames
  - Shake all of the bees from the box with the brood down to the bottom box
  - Put queen excluder on bottom box and put the box with brood on top
  - Return next day and assemble hive as above, be sure and remove capped queen cells

# May(cont)

- Late May
  - Most of early nectar flows are complete
  - Difficult period as queen may stop laying
    - Hive may not continue growing
    - Can often make itself busy making swarm cells
  - Next nectar sources usually start the honey flow but can be delayed until mid to the end of June
  - Need to provide colony with light syrup and pollen supplement when brood rearing falters

# June

- Swarming
  - Early June some colonies may just be ready to swarm
  - Must keep checking for swarm cells and take appropriate action
- Supering
  - Supering commences once colony strength
    - Fills both boxes
    - Nectar flows are becoming strong
    - Key honey plants blooming
  - Place single super on once some comb whitening is observed
  - Let bees fill super and begin work filling with honey
  - Once super is 70% filled add an additional super
  - Add supers with foundation below partially filled super
  - Bait foundation super with a few drawn combs
- For outstanding years take filled supers off once you have three supers on colony and continue supering
- Add additional supers only as old ones are near 70% filled

# Tips for Finding Queen

- Look for queen in morning with bright sun at your back
- Lightly smoke colony
- Separate brood chambers
- Look in top chamber first
  - Start by removing a side frame
  - Worked quickly frame by frame
  - Find frames having eggs, set aside carefully
- View each frame having eggs thoroughly
- Glance at frame ahead of one just removed
- Queens are often hard to find
  - If lots of nectar is coming in
  - If hive is agitated
  - No eggs are being laid
  - If queen is a drone layer

# June(cont)

- Packages
  - Add super once second brood chamber is drawn
  - Move outside frame foundation to inside of brood chamber to get drawn
- Nucs
  - Add second brood chamber late May early June
  - Add super once both brood chambers are filled with bees
- Swarmy hives
  - Hives that were doubled queen can be reduced to single queen when honey flow starts
  - Find old queen and kill her or just let them decide
  - Put both brood chambers together and move super on top
- Continue moving capped brood from strong to weaker colonies

# June(cont)

- Main honey plants: sweet clover (white and yellow), hairy vetch, white dutch clover, alsike clover, alfalfa, knapweed, canola and snowberry
- Watch the bloom on these plants to aid in timing addition of supers
- Start and end of flow are timed by the plants blossom period
- To identify what bees are working determine pollen color and watch bees in hive



Yellow Sweet Clover



White Sweet Clover



Dutch Clover

# June and July Major Honey Plants



Alfalfa



Alsike Clover



Canola



Hairy Vetch



Knapweed



Snowberry

# July

- Supering should be about done
  - Generally don't add additional supers
  - Wet years with knapweed locations bees will make honey in July and August
    - Spokane should have honey flow in average years where there is lots of knapweed
    - Leave supers on only if a good flow is going
    - For light flows best let bees fill upper brood chamber
- Remove supers starting the end of July
- Reduce colony to one super
  - Place any brood left in honey supers in remaining super
  - Put remaining super above a queen excluder on the hive



# August

- Remove all supers by mid to late August
- Check queen performance
  - Last chance to replace
  - August not best time but if queen performance is poor replace her
- Check varroa mite drop with a sticky board
  - Put sticky board on for a period of 2 to 7 days
  - Count the drop over the period
- Formic acid pads should be added as soon as the weather cools in August
  - Generally get cooling period starting mid August
  - Need to watch weather and put on pads when temperatures remain below a maximum of 82°F
  - Take off colony if temperature exceeds maximum
  - Check the mite drop during the period the pads are on
- Feed light syrup and pollen substitute if summer has been poor for the bees
  - Make certain the bees are brooding during August
  - Should have 2 to 4 frames of brood
  - Watch pollen flow carefully and add pollen substitute if flow is poor
  - Continue into September

# August(cont)

- Pollen sources
  - Mullen, toadflax, thistles, goldenrod, knapweed, St Johnswort are all excellent sources of pollen for the July, August, Sept periods
  - Must see pollen coming in during this period
- Drought may reduce pollen to nearly none
- Must feed pollen substitute and light syrup if natural sources are poor
  - Young bees raised during this period must survive to April
  - Colony will not survive if these bees are not healthy and plentiful
- Need to have a winter cluster that is approximately
  - Diameter of the width of one box for yellow bees
  - Perhaps a diameter of  $\frac{3}{4}$  width of one brood chamber for dark bees
- August and September are key months for hatching of overwintering bees

# August(cont)

## Some Major Fall Honey Plants



Aster



Toadflax



Goldenrod



Knapweed



Mullen



St Johnswort

# September

- Formic acid pads are removed
  - Check the mite drop for several periods after the pads are removed
  - Try to check when brood is hatching out
  - Make certain treatment worked, if not, get help
- Feeding of Fumilgilin-B
  - Feed two gallons 2:1 syrup (sugar:water, by weight or volume) with appropriate amount of Fumilgilin-B
  - Feed first before the final feed needed to meet total food requirements for winter
- Once Fumilgilin-B is complete
  - Feed 2:1 syrup until top box is full of honey/feed
  - Hive total weight should be about 120# including top and bottom boards
- Queen performance should be checked and queen replaced with a nuc if any problem is observed
- Colonies that don't take feed
  - Providing daily maximum temperatures are in the upper 50's
  - Almost always have a queen problem even though she "looks" good
  - Be very suspicious of colonies that don't feed well

# October

- Feeding is problematic
  - Temperatures are low enough that colonies will not feed well
  - Best to plan on having all feeding done before October
- Get winterizing completed
  - Entrance reducers for  $\frac{3}{4}$ " opening bottom boards
  - Wraps, if you use them, on colonies
  - Insulation on tops if you use them
- Migratory lids are poor for wintering bees
  - Must provide seal for rain and snow melt water
  - Best to replace with telescoping lid or insulated covering with plastic
- Best to have colonies tipped forward so water clears off lid
- Make certain colonies have a clear upper entrance that cluster can get to
- Face colonies to sun
- Winter sun should directly illuminate colony during the Noon to 2 PM time period
- Keep bottom boards at least 2" above the ground

# November, December

- Make certain colonies are staying dry
- Entrances are open
- Sun is illuminating colony in the 12 Noon to 2 PM
  - Move colony to sunny spot
  - Can do anytime
- Heavy snow and ice can be removed from entrance
- Upper entrance should show bee activity on flight days
- Nothing else to do but wait until spring