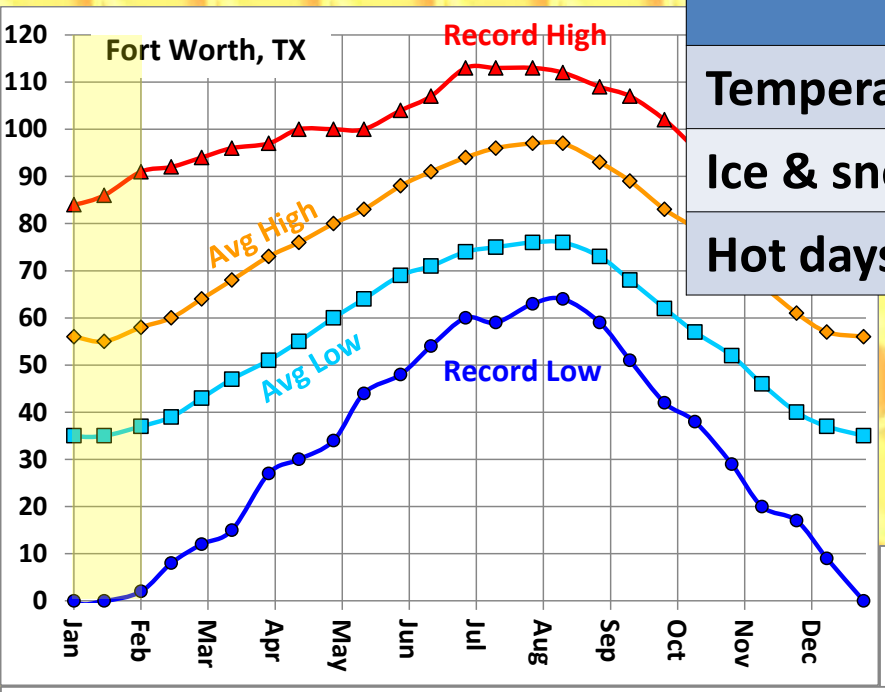
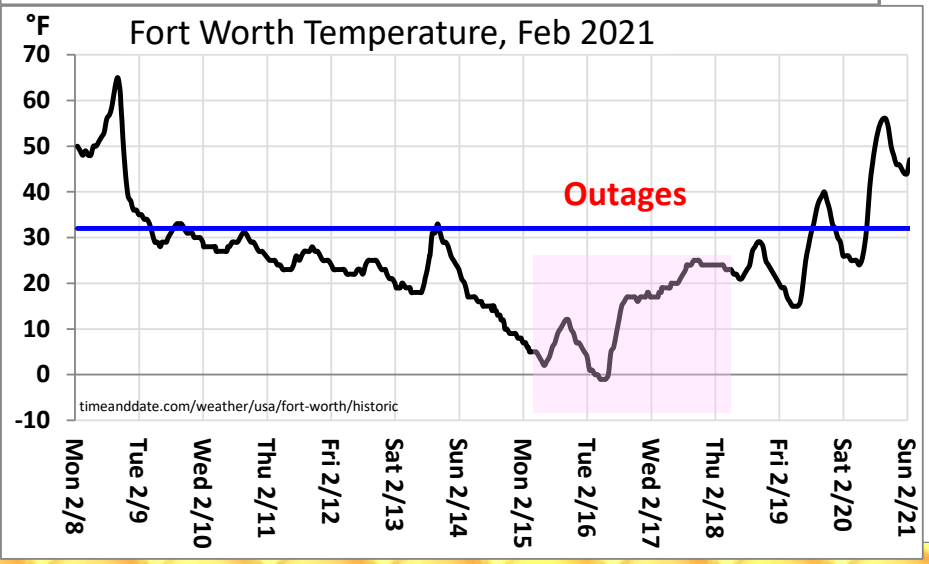
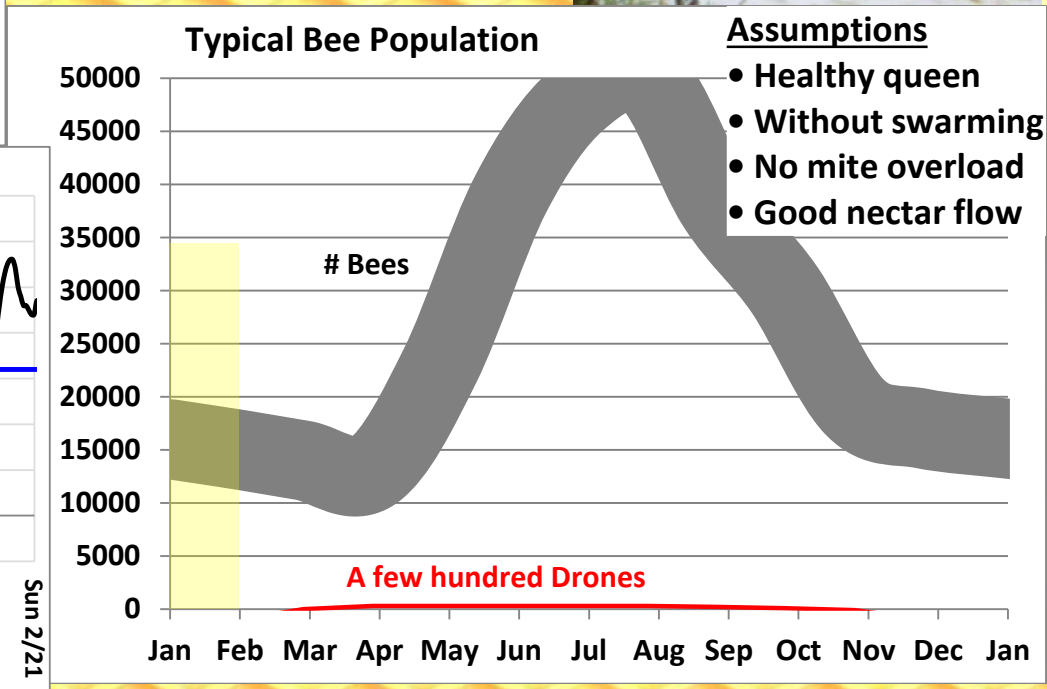

This Month
in the Hive
METRO BEEKEEPERS

January in the Hive: Weather

Weather
Temperatures between 0° & 90°
Ice & snow are possible
Hot days allow foraging, blooms







January in the Hive: Blooms

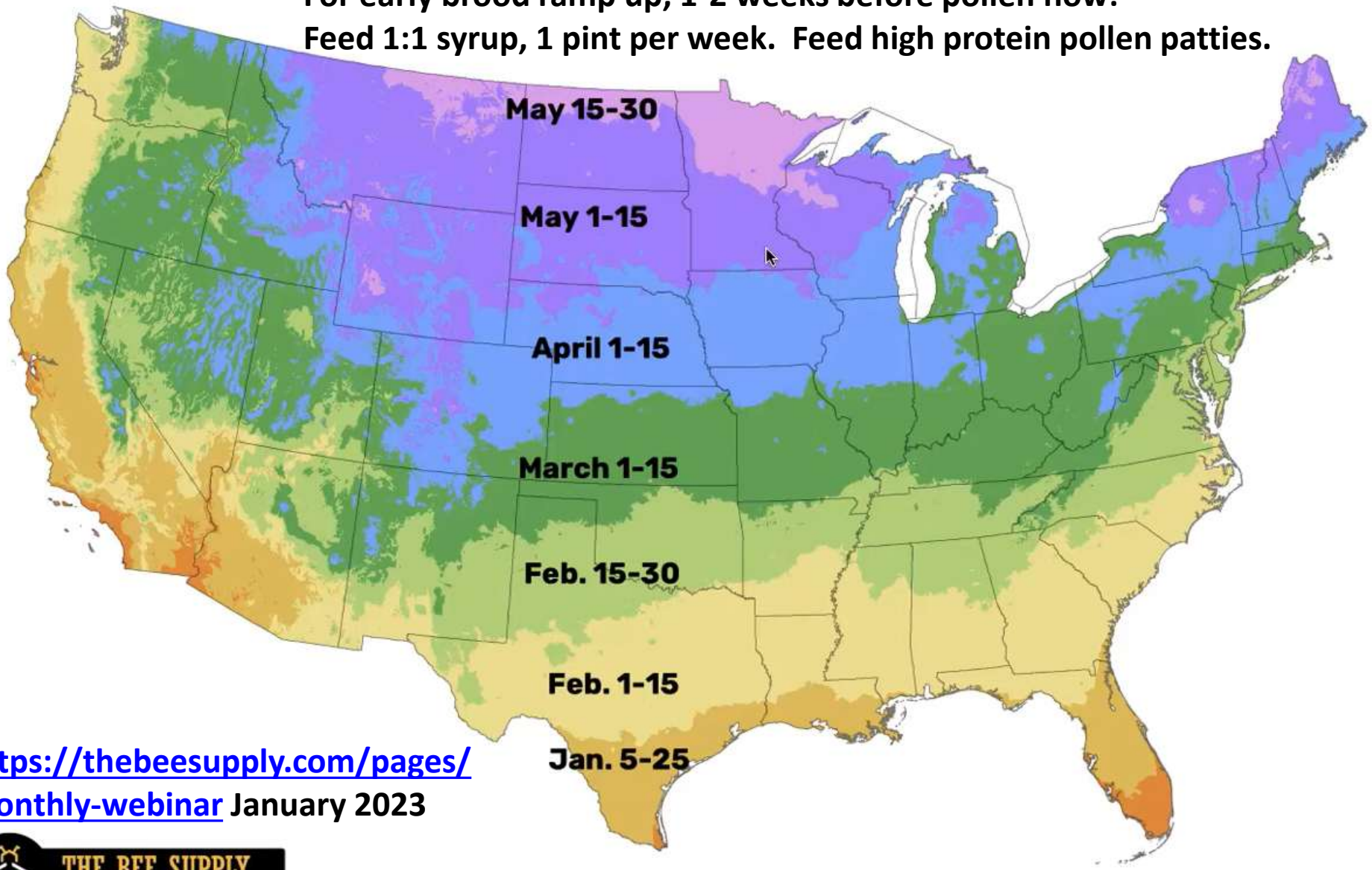
- Some pollen available in January
  - Dandelion
  - Honeysuckle
  - Rosemary
  - Cabbage/Mustard
  - Holly
  - Elm
  - Ash
  - Many others

Examples of incoming pollen (Spring photo)

- Pollen & longer days alerts the queen to ramp up brood production
- Beekeepers watch for pollen going in, to be aware of the health & strength of the hive

Significant Pollen Flow Start Dates

For early brood ramp up, 1-2 weeks before pollen flow:
Feed 1:1 syrup, 1 pint per week. Feed high protein pollen patties.



https://thebeesupply.com/pages/monthly-webinar January 2023

THE BEE SUPPLY
BEEKEEPERS HELPING BEEKEEPERS™

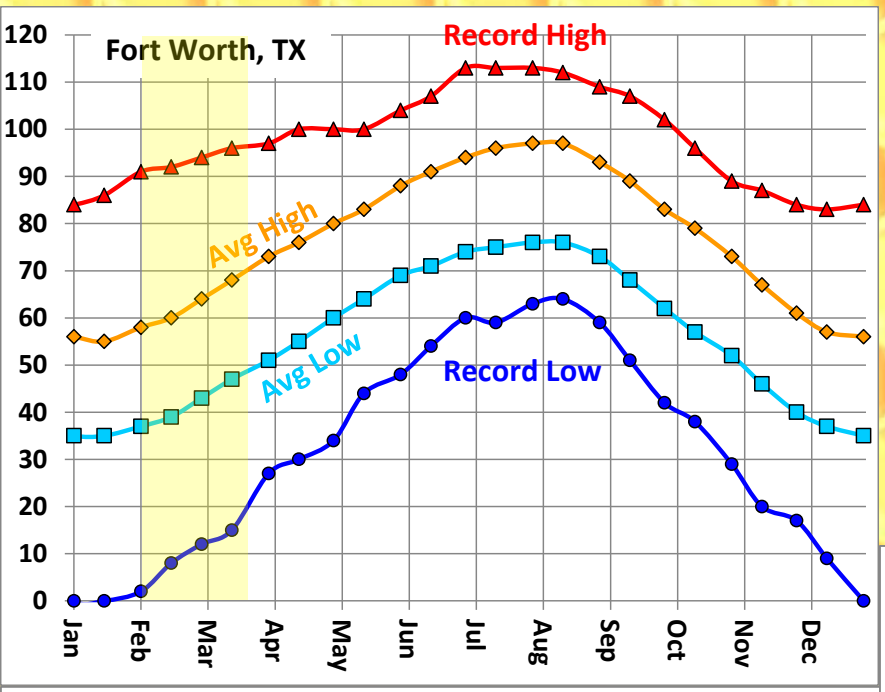
January in Hive: Bees & Beeks

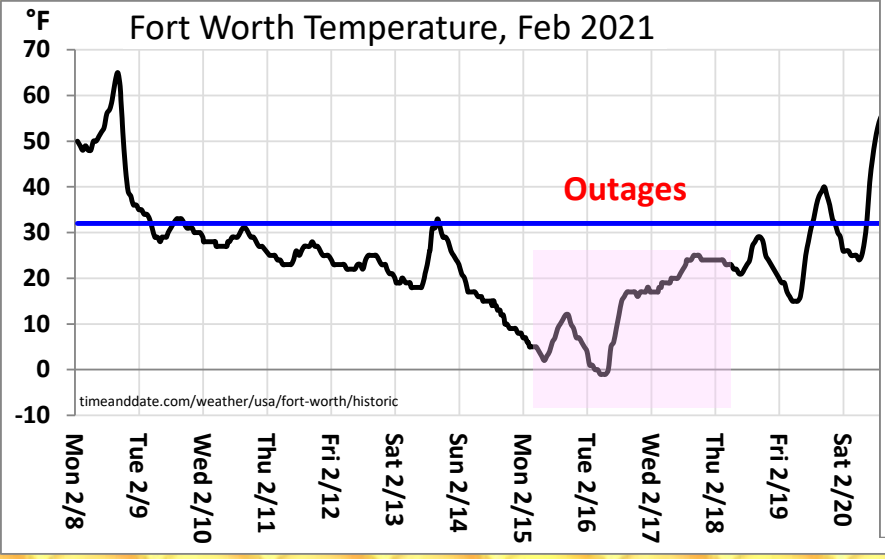
Bees	Beekeeper
When cold, Bees cluster & be active to keep brood ~93° temperature	Don't chill the brood. Minimize time opening hive if below ~60°F cloudy, windy.
Bees eat lots of honey between workouts. Colonies can starve. Cluster may have eaten its way up to the top box.	Check food supply by hefting the back of hive. Keep 30-40 lbs of honey. If temp < 50° , feed fondant or sugar brick, inside, which also absorbs moisture (good). If > 50° can feed 2 parts sugar to 1 part water, inside. Feed small amounts (1 pint/wk) to not overdo ramp up.
Depending on weather & pollen, Queens start laying in Jan.	Can feed pollen in late Jan, to start Spring buildup. ~2 weeks before pollen flow, Feb 15, can feed 1:1 syrup.
Winter bees are dying off	Don't be surprised to see a few dozen dead bees. If colony is too weak (≤ 2 frames of bees), combine.
On warm days, may go for water or pollen. Cleansing flights.	Watch for activity on warm days, to judge colony health
Mites survive winter with bees	If mite load high, treatments very effective, low brood
Potential for dysentery or Nosema	Watch for signs. Maintain good strength & nutrition.
Few guard bees; potential for pests	Keep entrance very small
Bees give Beekeepers "free time" in Winter.	Order bees/queens for Spring. Maintain/replace equipment. Join local bee club. Invite friends to join.

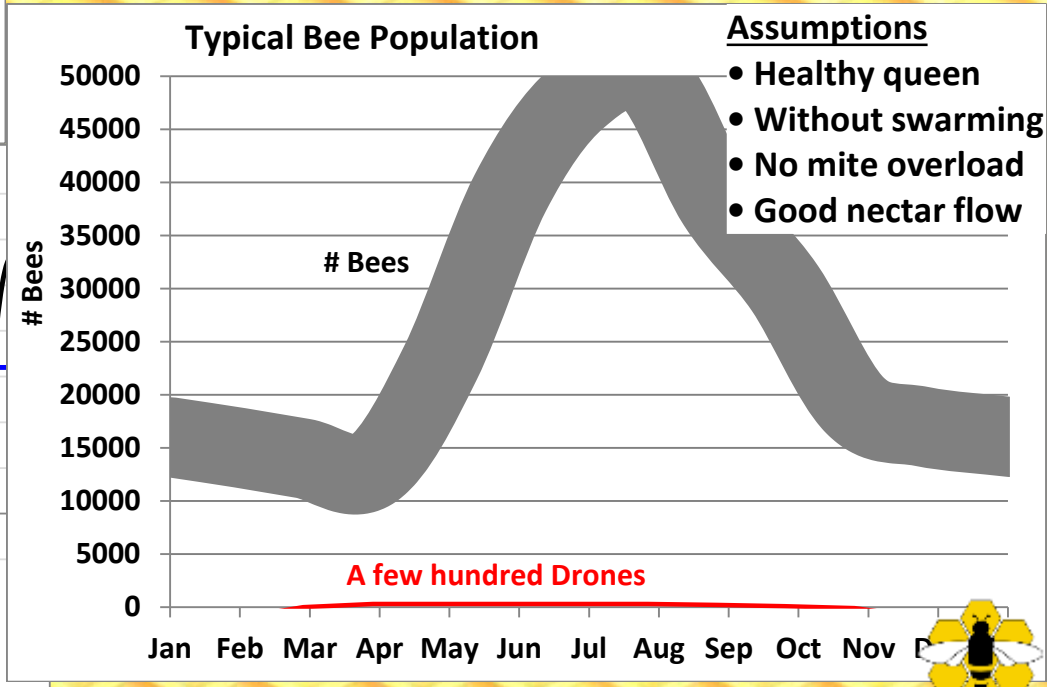
- **Queenright, Nutrition, Pests & Diseases, Housing**

February in the Hive: Weather

- **Temperatures between 0° & 95°**
- **If ice & snow, clear entrances for ventilation**







Significant Pollen Flow Start Dates

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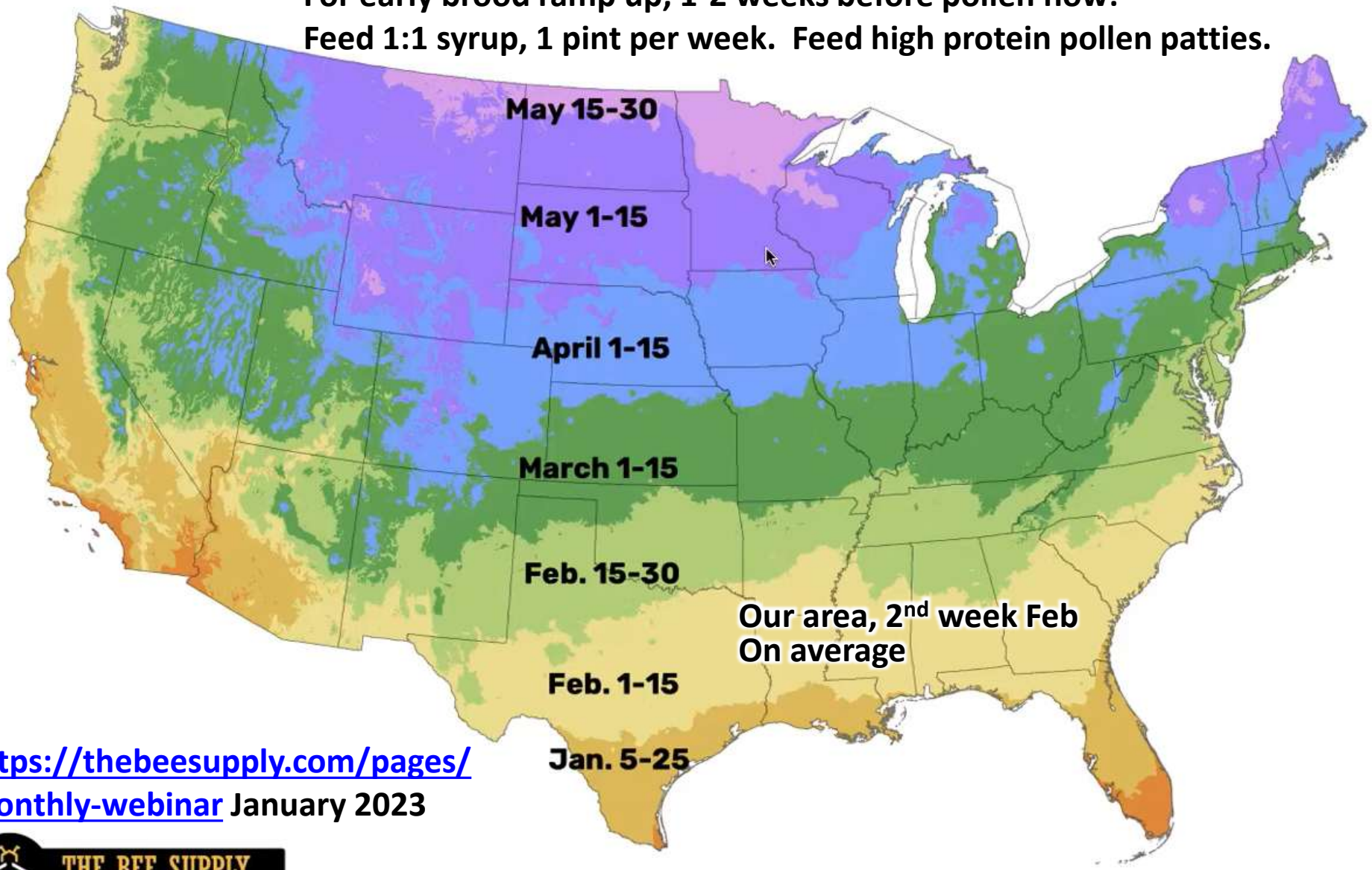
Feed 1:1 syrup, 1 pint per week. Feed high protein pollen patties.



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THE BEE SUPPLY
BEEKEEPERS HELPING BEEKEEPERS™

February in Hive: Bees & Beeks

Bees	Beekeeper
Colony is launching a new year. Pollen alerts queen to ramp up.	Inspect. Check for queen, syrup, pollen, pests. Test for Varroa & treat if > 2 or 3 per hundred bees.
When cold, bees cluster & are active to keep brood ~93° F	Don't chill the brood. Minimize opening below ~60°F. If long very cold wave, consider wind breaks, insulation.
Maximum chance of starvation. They can't forage below ~50° F. Feb 2021 had 14 days below 50° F. If hive runs out of stores, they stop rearing brood, & eat existing brood.	Check food supply at least every 2 weeks (heft or visual). If low on honey/nectar, feed (syrup, brick, fondant). 1:1 syrup stimulates raising brood & building wax comb. If low on pollen (or long cold forecast), add pollen patty. When it's warm again, remove remaining patty.
Varroa mite levels increase with brood	If > 2 mites per 100 bees, implement Varroa controls. If treat, be finished before adding honey supers.
Bees may be in top box, above empty box	Consider reversing boxes, but don't divide the brood
Strong hives may fill >80% of space	Add a box to reduce swarming pressure. Prep for split.
Potential for pests & robbers	Keep entrance small, appropriate for activity level
Prepare for Spring growth	Order bees, queens, equipment for Spring. Maintain/replace equipment.

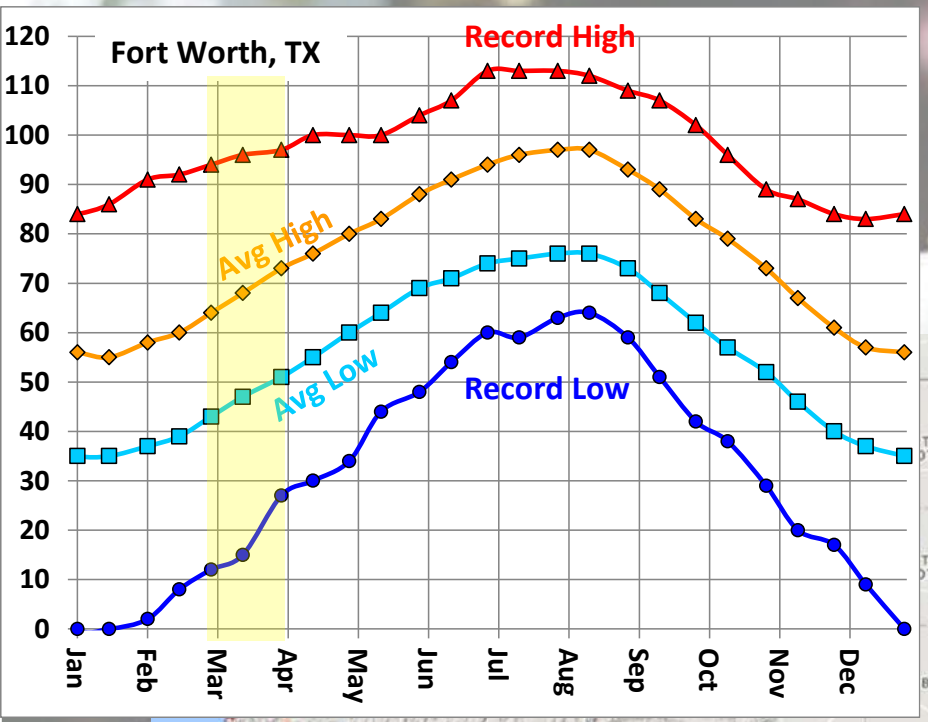
Queenright, Nutrition, Pests, Diseases, Housing

METRO BEEKEEPERS

Bee Water Safety

- Put floats in water
- Foam packing material reduces the organic decay that happens with twigs, leaves, etc.
- Thanks Louis for pic & suggestion!

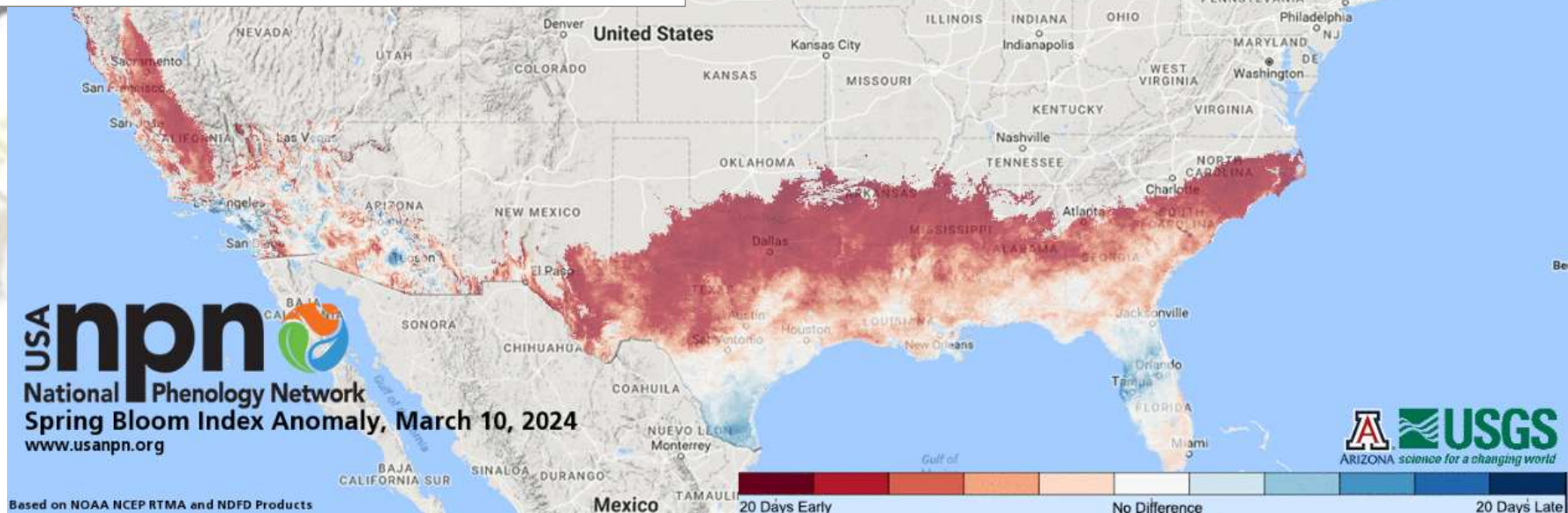
March in the Hive: Weather



- **Temperatures 15° to 95°**
- **Last freeze mid-April**
- **Many plants blooming**

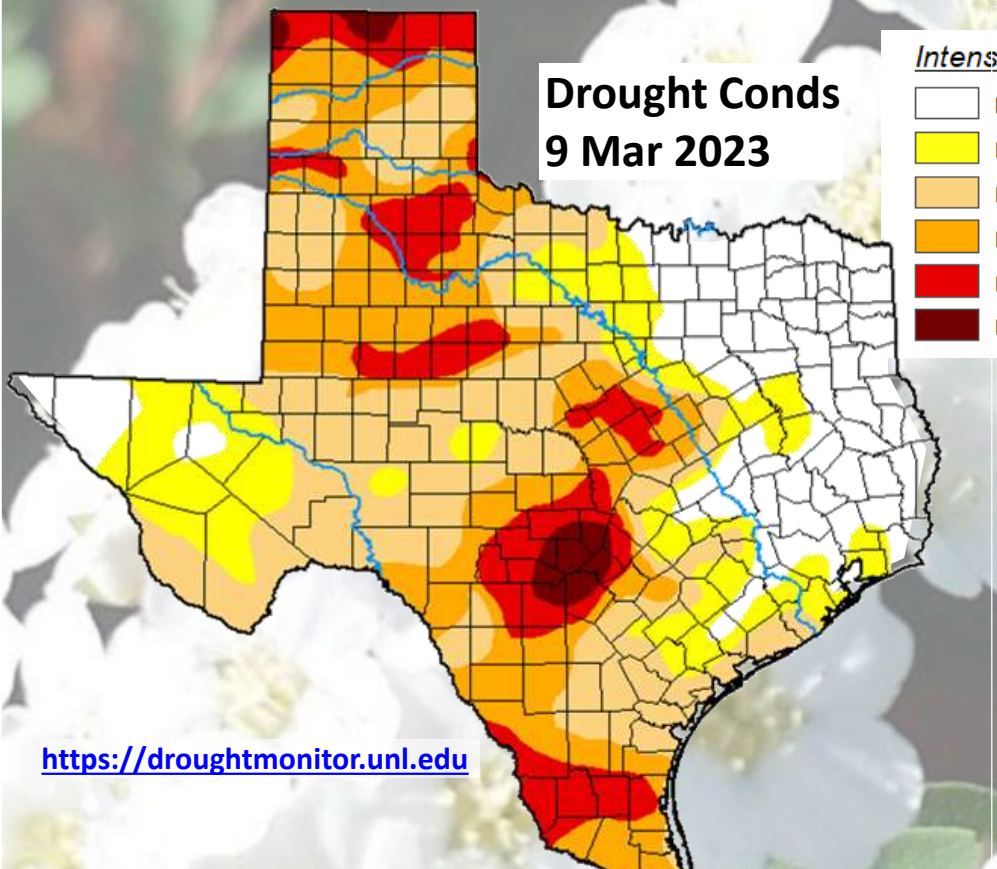
SPRING FIRST BLOOM
10 March 2024
~2 weeks early in North TX

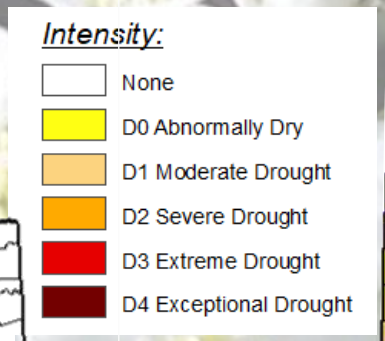
https://www.usanpn.org/data/maps/spring



March in the Hive: Drought

- No drought in our area
- A little better than 2023
- 2023 was a good Spring for bees





Queen & Brood Health

- Brood production increases with pollen
  - Up to 2000 eggs/day (Med 2300/side, Deep 3600/side)
- Is queen healthy? (Eggs, larvae, brood)
  - If not, re-queen, or let colony requeen
- Signs of healthy brood
  - Larvae pearl white & glistening
  - Brood caps not punctured or sunken
  - Good brood pattern

Nutrition

- **Colonies can starve in March**
  - Unless they have attentive beekeeper
- Not enough nectar for increasing population
- Bees are upset when low on stores & no nectar coming in
- How can we tell if they need help?
  - Heft hive (lift back to feel weight)
  - Open & inspect
  - If 10 frames bees, have 5 frames of honey
  - Check every week
- Feed if needed (1 part sugar, 1 part water)
- Inside feeders have less risk of robbing

Mite Testing?

- Before varroa (1986), losses 10% to 15%/yr
- Now 30% to 50% of colonies are lost/yr
- Mites feed on bees & spread viruses
- 40% of hobby beeks don't test for mites
- Do you want to know?

Varroa

- Colonies die from varroa & viruses carried
- Inspect every ~6 weeks from March to Nov
- If more than 2 mites per 100 bees, treat
- There are natural treatments & methods that don't contaminate honey or comb
  - Table, drone brood trapping, queen caging

Metrobeekeepers.net, Resources, Varroa

Treatment	Ess Oil	Org Acid	Synth Chem	Non-Chem	Mite kill	Improved Losses	Residues	Temp, °F	With supers: Incr	With supers: Peak	With supers: Decr	With supers: Dorm	No Brood, No supers: Incr	No Brood, No supers: Peak	No Brood, No supers: Decr	No Brood, No supers: Dorm	With Brood, No supers: Incr	With Brood, No supers: Peak	With Brood, No supers: Decr	With Brood, No supers: Dorm
Formic acid (MAQS, Formic Pro)		Y			80%	24%	No	50°-85°	H	H	H	M	H	H	H	M	H	H	H	M
Oxalic dribble		Y			90%	39%	No	Any					Y	M	M	Y	Y	M	M	Y
Thymol (Apiguard, Apilife var)	Y				83%	30%	Some	59°-105°					H	H	H	M	H	H	H	M
Amitraz (Apivar, Taktic)			Y		95%	41%	Yes	Any					H	H	H		H	H	H	
Oxalic acid fume		Y			90%	39%	No	Any					Y		Y	H	Y	Y	Y	H
Hops beta acid (Hopguard 2)		Y			85%	0%	No	>50°	M	M	H	H	M	M	H	H	M	M	H	H
Fluvalinate			Y		97%*	7%	Yes						Y		L		Y		L	
Coumaphos (Checkmite)			Y		92%	6%	Yes						Y		L		Y		L	

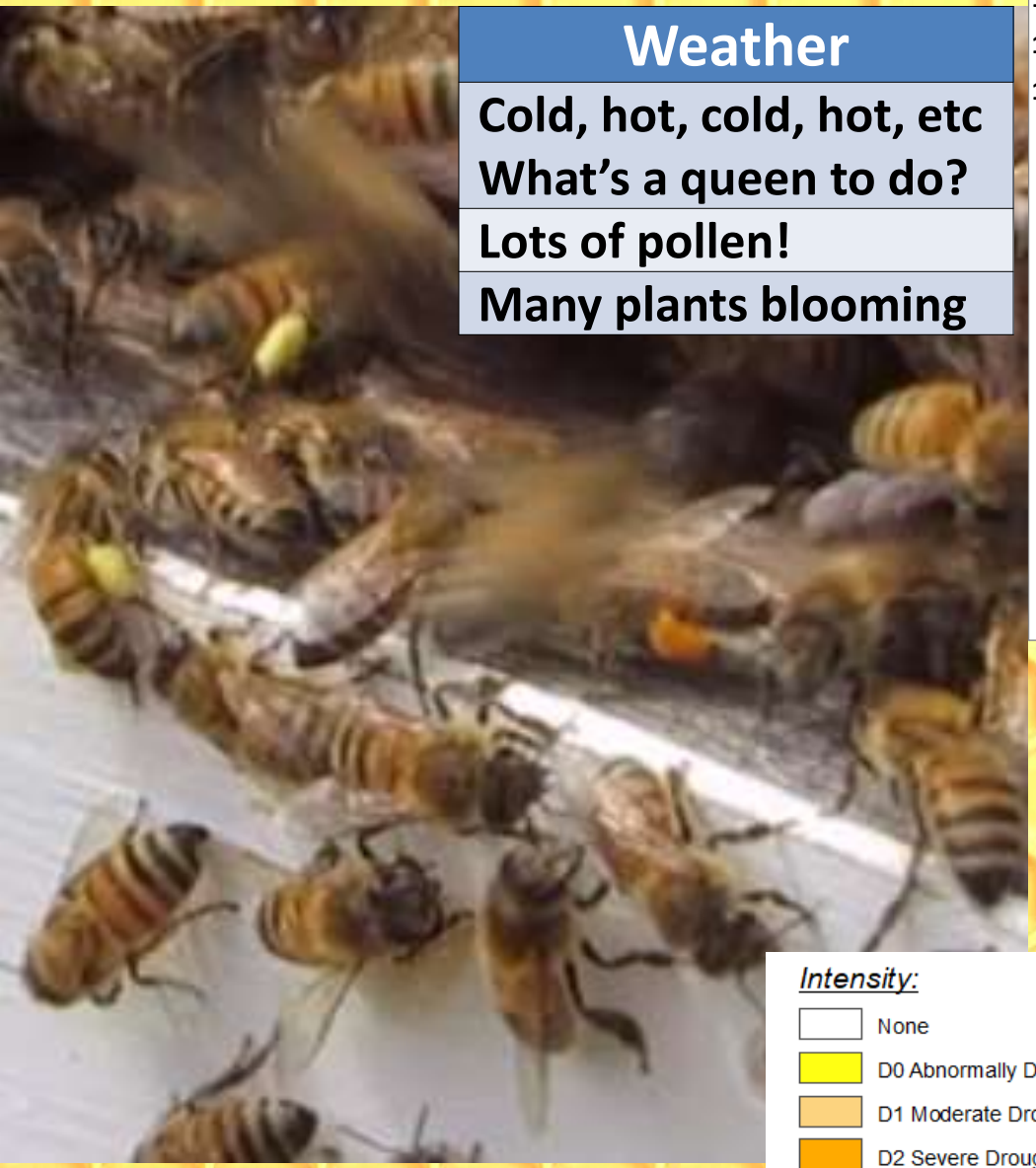
Info compiled from honeybeehealthcoalition.org/Varroa/

Swarming

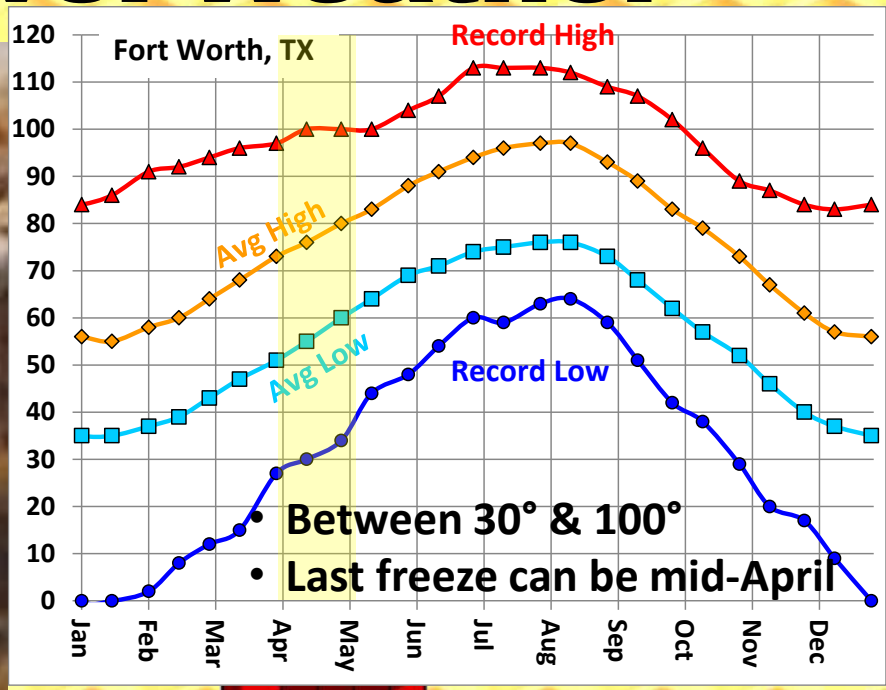
- Strong colonies may be preparing to swarm
- When colony 70% full, add box
- Checkerboard honey frames
- Split, when queen available
  –~late April (if already in line)

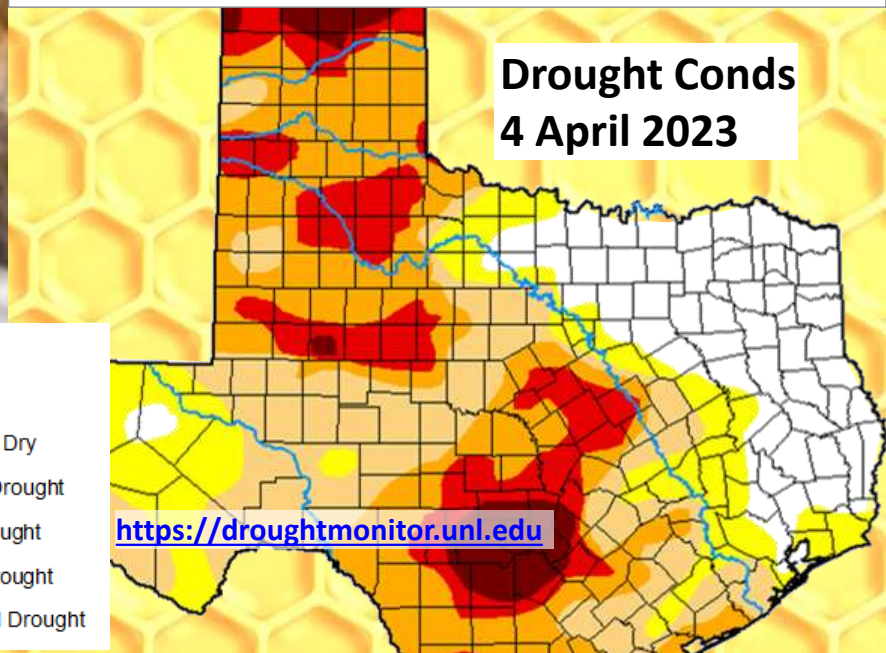
https://scientificbeekeeping.com/understanding-colony-buildup-and-decline-part-7a/

April in the Hive: Weather



Weather
Cold, hot, cold, hot, etc
What's a queen to do?
Lots of pollen!
Many plants blooming





April in Hive: Bees & Beeks

Bees	Beekeeper
• Brood production booming with pollen, up to 2000 eggs/day • Bees know if queen is productive. • If queen failing or prep to swarm, bees build queen cells (if eggs)	• Inspect (queen, food, pests, disease, housing) • Don't chill brood • Is queen productive? Capped brood, larva, eggs, # of bees. • Replace queen if needed. Or let bees replace her • Remove queen cells only if you have a queen
• On cold days (weeks), still eating stored honey & pollen	• Several frames honey? If not, feed 1:1 syrup. • Inside feeders don't invite robbing like front feeders do • If cold week & low on pollen stores, consider supplement
• More bees are eating • More food is coming in	• Feeding can increase brood buildup, where needed • Over-feeding can increase swarming pressure
• Strong hives ready to swarm	• Add box when 75% full, (air-out 1st) • Rotate boxes (don't divide brood) • Checkerboard honey to reduce swarming pressure • Split the colony
• Varroa mite levels increasing • Strong hives begin rearing drones • Varroa love drone brood	• Keep colony strong. Monitor for Varroa. • Implement your Integrated Pest Management plan • Follow treatment instructions; it's the law & for safety • Can switch to screened bottom boards • Think ahead about honey supers, limits treatments
• Potential for robbing	• Maintain entrance for activity level & temperature.

If You Have a New Colony

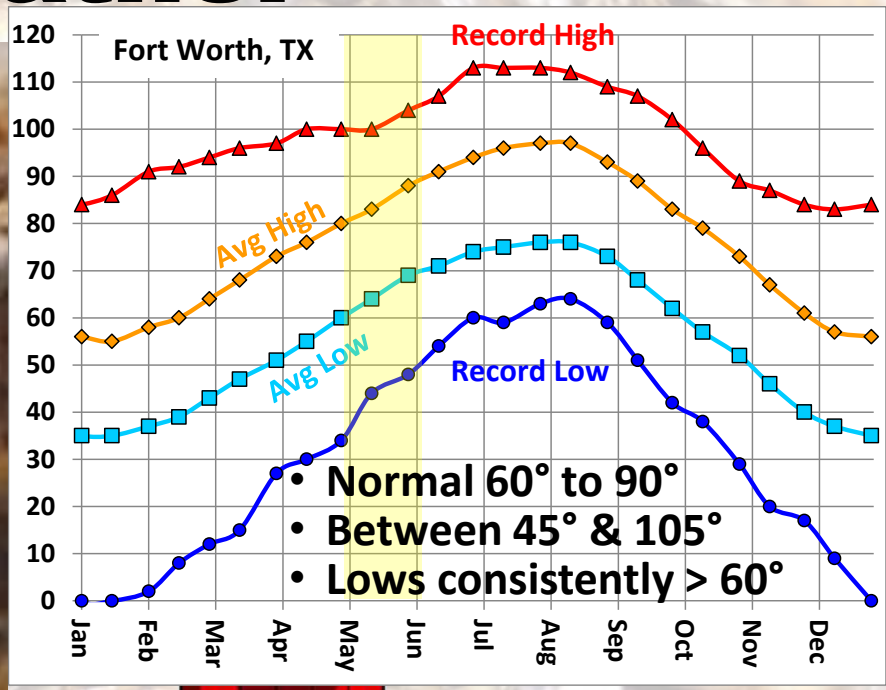
- A new colony includes Nucs, Packages, Captured Swarm, New Queen, Splits
- Feed 1:1 syrup for at least 3 weeks, which strengthens the hive & makes it a place they want to stay
- If you do a split (or any new colony), give each colony at least 3 frames of brood, & 3 frames of honey & pollen, if available
- Confirm that the queen is laying eggs
- Add another box when the 1st box is 75% full of bees, or they will want to swarm
- If you have a captured swarm, you could use a queen excluder for a couple weeks

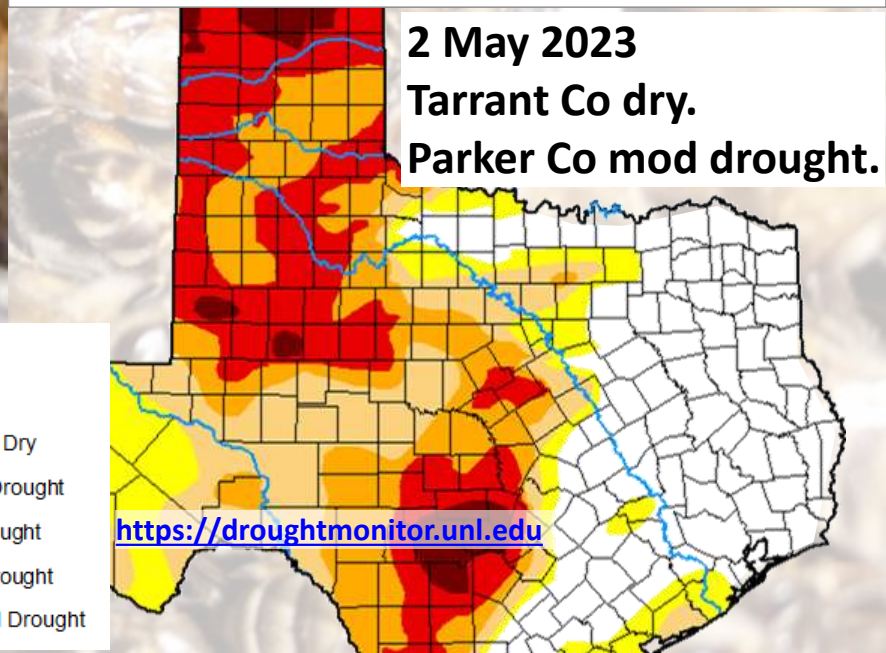
Mosquito dunks are safe for bees & environment

We put them in French drains, rain gutters, etc.

May Weather

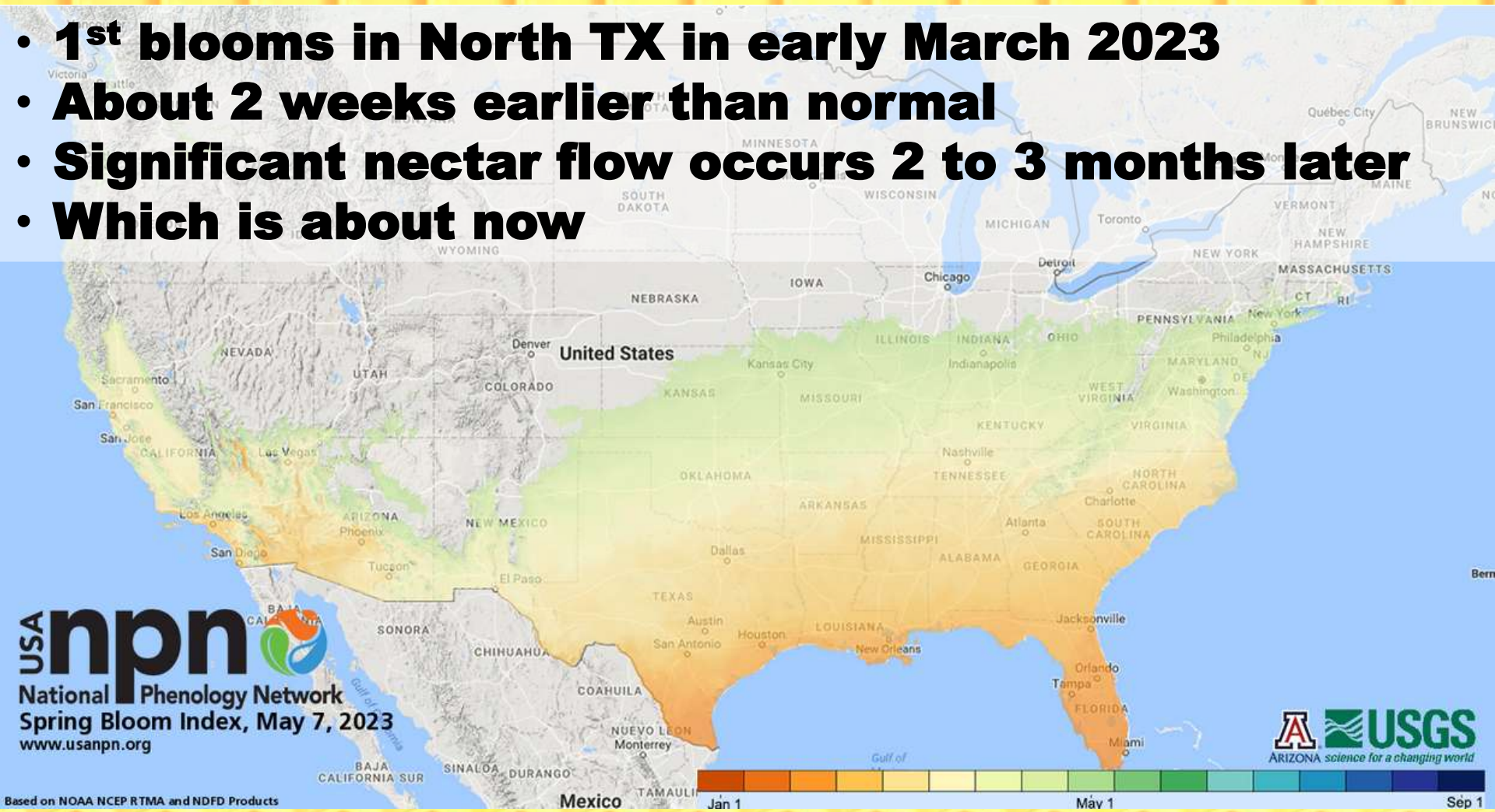
Weather
Lots of pollen
Many plants blooming
Some nectar flowing





Spring Bloom 2023

- 1st blooms in North TX in early March 2023
- About 2 weeks earlier than normal
- Significant nectar flow occurs 2 to 3 months later
- Which is about now



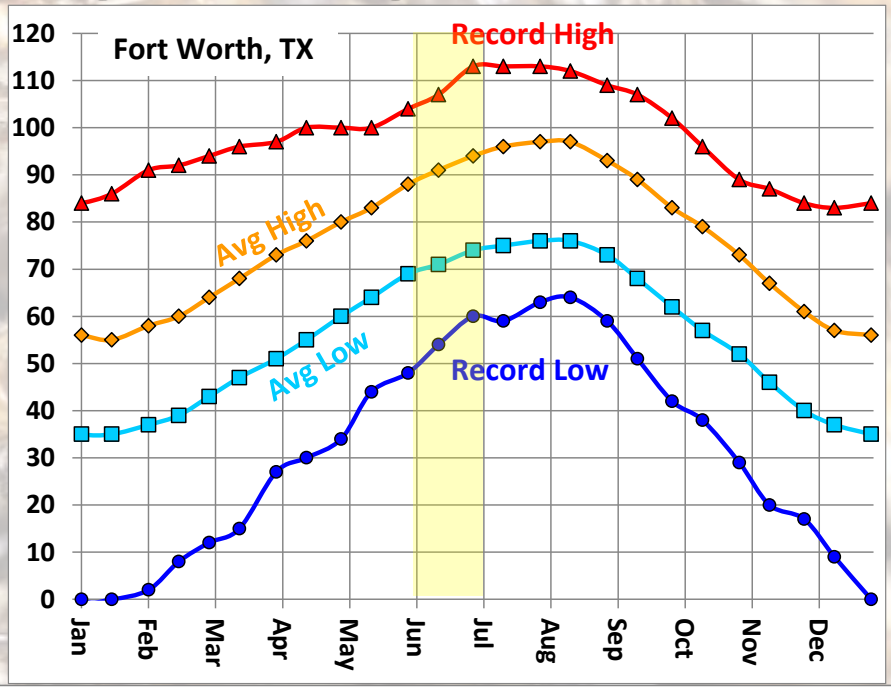
- www.usanpn.org shows when plants leaf & bloom
- And compares to average

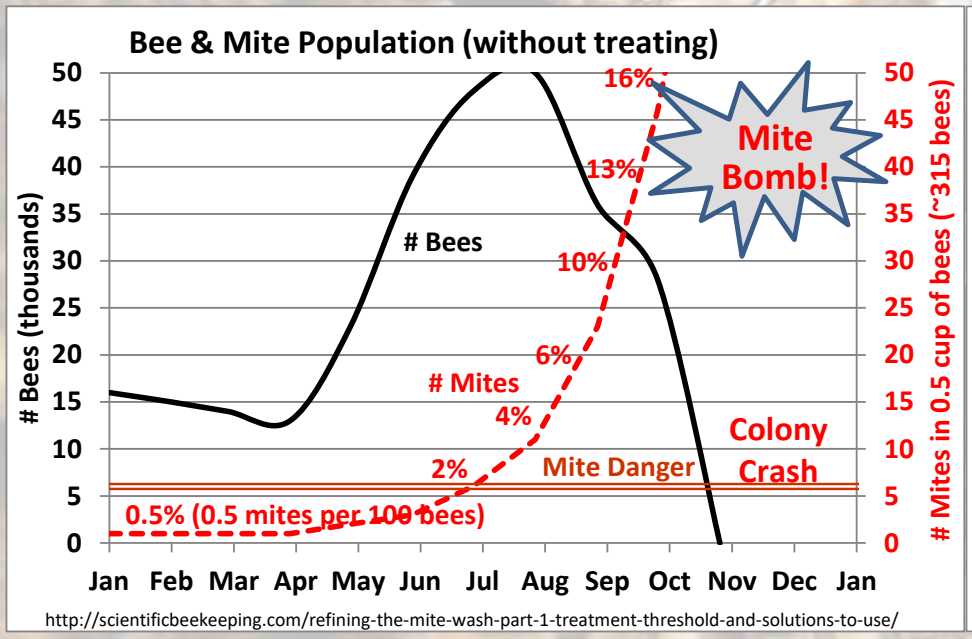
May in Hive: Bees & Beeks

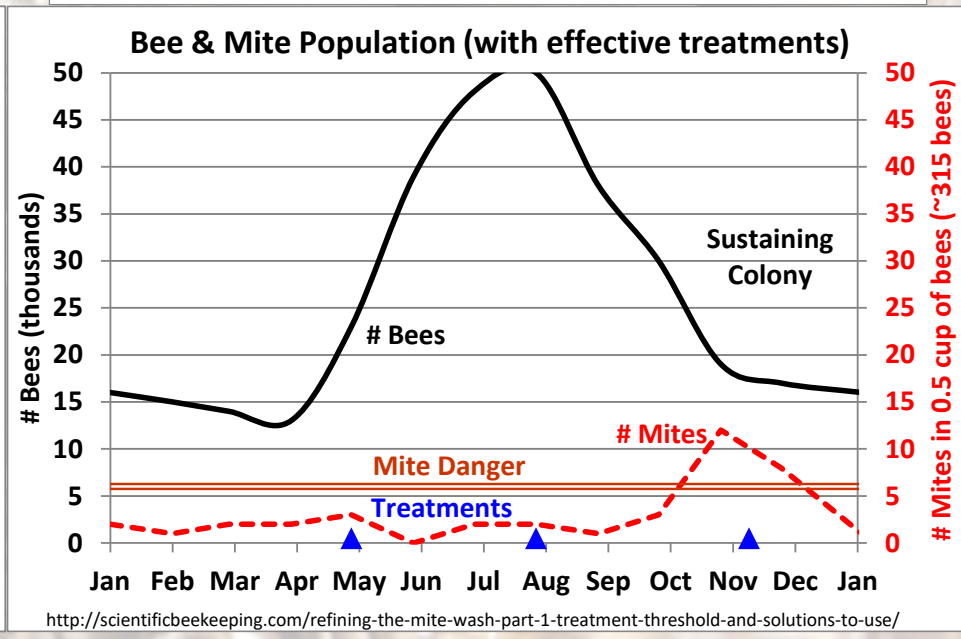
Bees	Beekeeper
• New colonies?	• Feed 1:1 (1 part water, 1 part sugar), all they take
• Brood production booming with pollen, up to 2000 eggs/day	• Inspect ~weekly (queen, food, pests, disease, housing) • Is queen productive? Capped brood, larva, eggs, # of bees.
• If queen failing, build queen cells (if eggs)	• Requeen, or let bees replace queen • Remove queen cells only if you have a queen
• Strong hives may want to swarm New box E H E H E H E H E H Orig box H E H E H E H E H E	• Add brood box when frames are 70% full of bees • Rotate boxes (don't divide brood), esp if lower box empty • Checkerboard honey to reduce swarming pressure • Split the colony
• Significant honey storage, if good nectar flow	• If low on wax comb, feed bees until they build comb • Prime foundation with wax to encourage drawing comb • No queen excluder until ~6" comb drawn on 4+ frames • Add honey supers when boxes are ~70% full.
• Varroa mite levels increasing • More than 3 mites per 100 bees is a concern	• Keep colony strong. Monitor for Varroa. Implement IPM. • Think ahead about honey supers, limits treatments • Mechanical steps during honey flow: drone brood frame removal, screened bottom board, powdered sugar dusting
• Disease? Larvae should be pearl white, curved, glistening wet.	• Address if larvae are dark, chalky, or distorted • Address if brood caps sunken, perforated, spotty
• It's hot, lots of bees, bearding	• Bearding is normal. Provide ventilation. Not full shade.
• Potential for robbing	• Maintain entrance for activity level & temperature.

June in the Hive

- Temp, Avg 70° to 95°
  - Record 50° to 110°F
- Nectar flow continues another week or two
- Bee growth slows if temp > ~90° &/or less rainfall
- Mite count likely growing if not treated

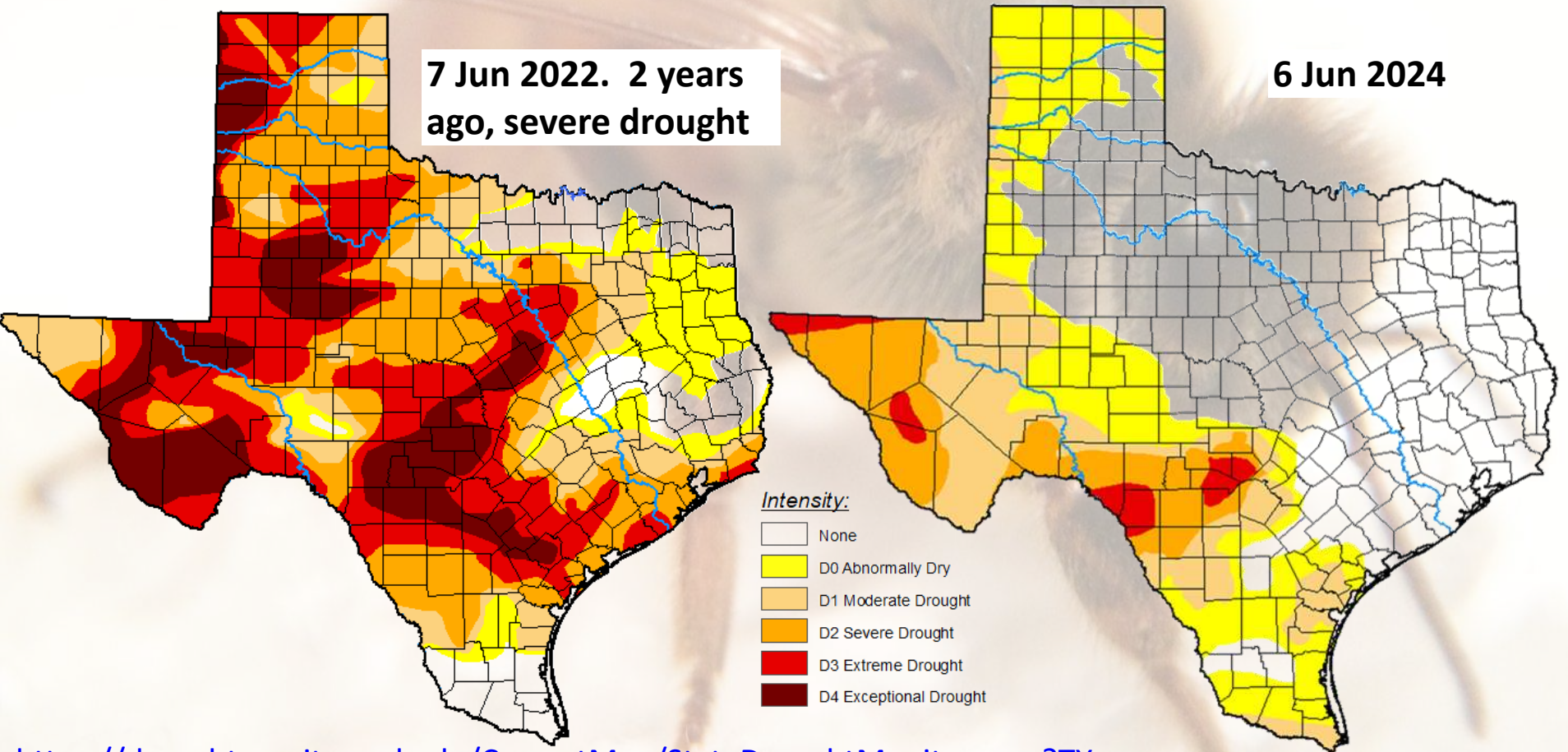






No Drought in Our Area

- **Honey harvest after wet Spring can be lower than normal, but better than drought**
- **During Summer dearth, make sure bees have water**



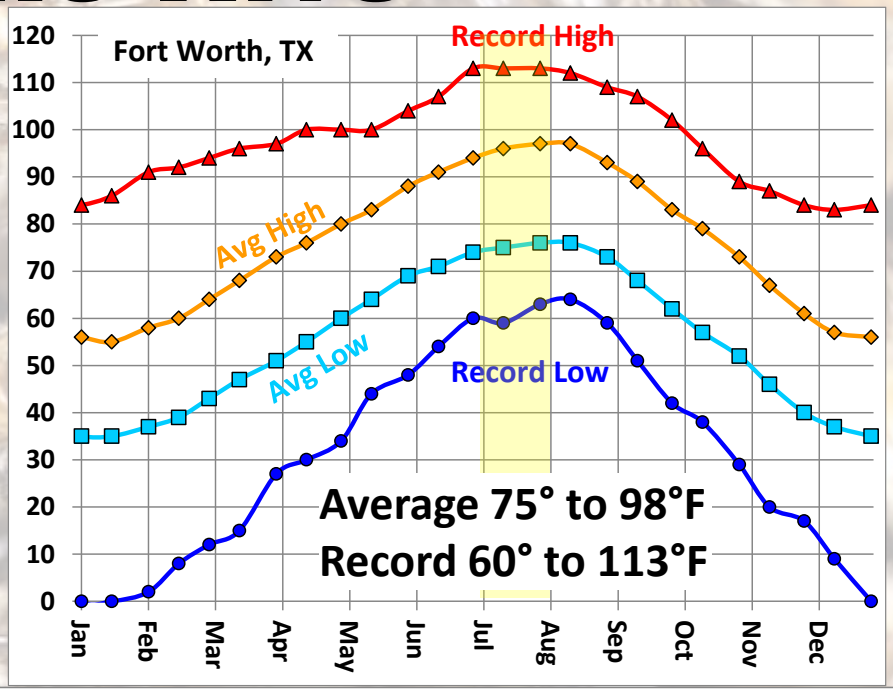
https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX

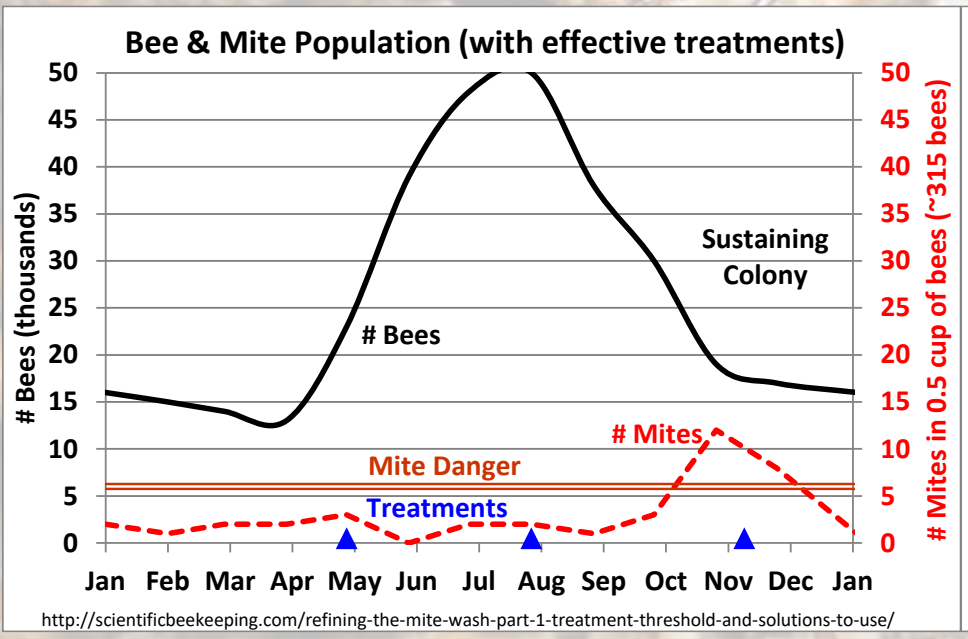
June in Hive: Bees & Beeks

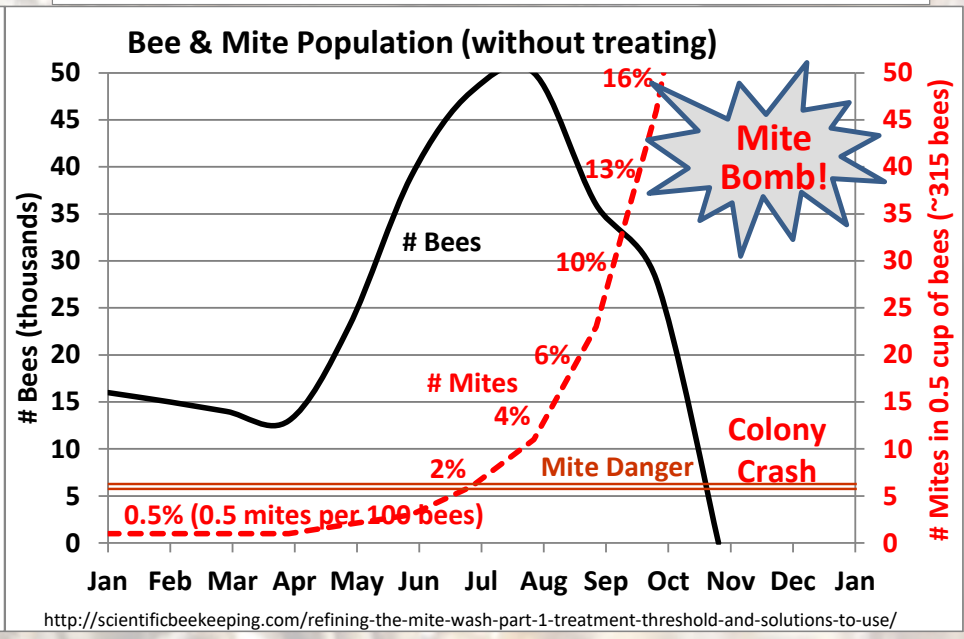
Bees	Beekeeper
• New colonies?	• Feed 1:1 (1 part water, 1 part sugar), all they take
• Brood production going strong	• Inspect ~weekly (queen, food, pests, disease, housing) • Is queen productive? Capped brood, larva, eggs, # of bees.
• If queen failing, build queen cells (if eggs)	• Requeen, or let bees replace queen • Remove queen cells only if you have a queen
• Strong hives may want to swarm 	• Add a box when frames are ~70% full • Rotate boxes (don't divide brood), esp if lower box empty • Checkerboard honey to reduce swarming pressure • Split the colony, if you have another queen
• Significant honey storage, if good nectar flow, usually May thru June • After nectar flow, bees eat honey, so supply starts going down	• If low on wax comb, feed bees until they build comb • Prime foundation with wax to encourage drawing comb • No queen excluder until ~6" comb drawn on 4+ frames • Add honey supers when boxes are ~70% full • Harvest soon after nectar flow ends. Feed? Treat?
• Varroa mite levels increasing • More than 3 mites per 100 bees is a concern	• Keep colony strong. Monitor for Varroa. Implement IPM. • Think ahead: honey supers & temperature limit treatment • Mechanical steps during honey flow: drone brood frame removal, screened bottom board, powdered sugar dusting
• Disease? Larvae should be pearl white, curved, glistening wet.	• Address if larvae are dark, chalky, distorted, or dry • Address if brood caps sunken, perforated, spotty
• Bees beard to control heat	• Bearding is normal. Provide ventilation. Not full shade.

July in the Hive

- Hot & dry
- Nectar flow May thru June
- Bee growth slows, peaks
- Mite count likely growing
- July/Aug may be the most important time to check for varroa
  - Help bees survive winter



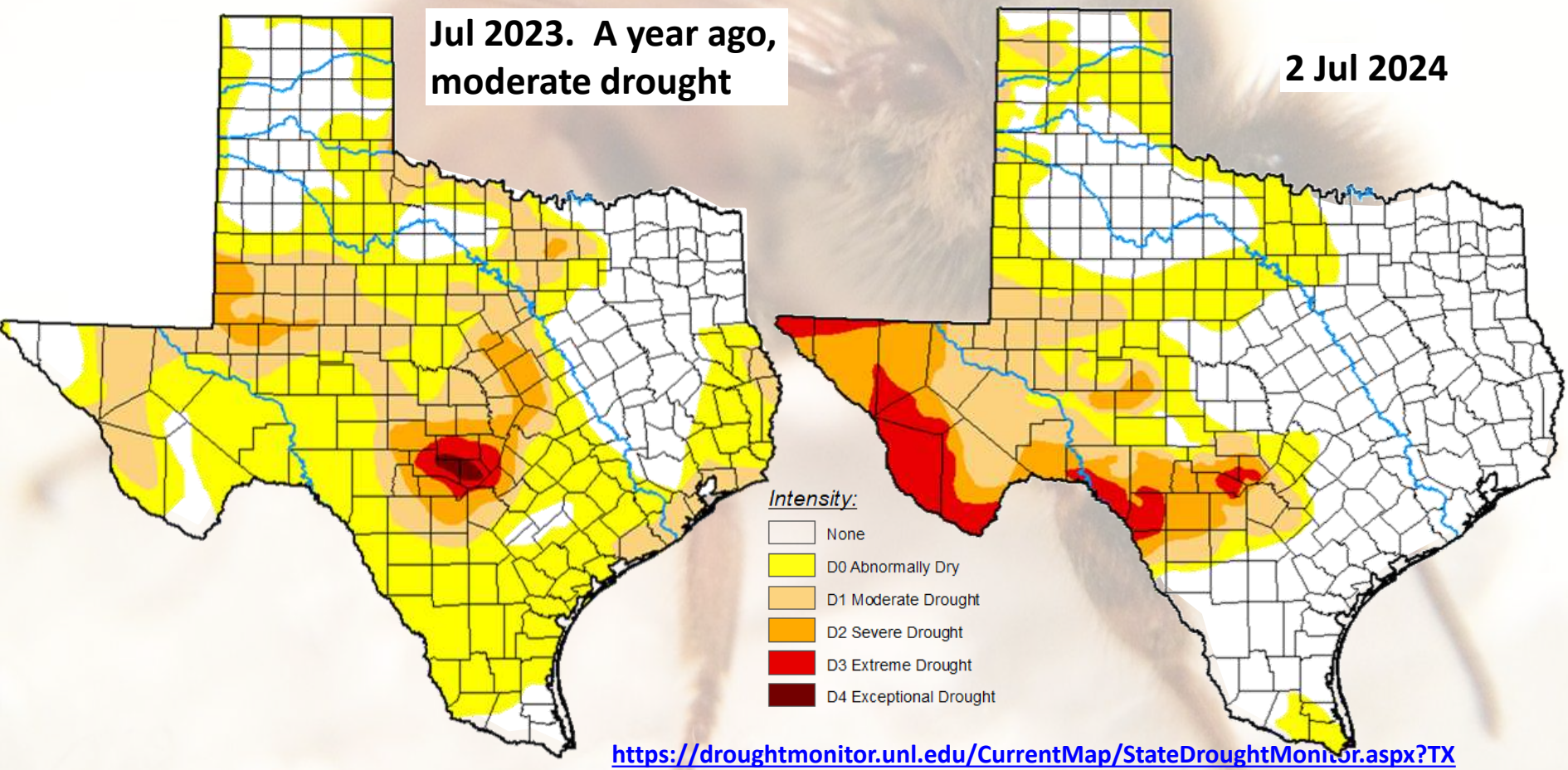




Drought Conditions

- **Make sure bees have water**
- **Colonies need nectar or syrup sub**
- **Feed after final harvest, to build winter stores**

Tarrant County Dry



https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX

July in Hive: Bees & Beeks

Bees	Beekeeper
• HOT & DRY!	• Make sure bees have reliable water supply. • If excessive bearding, consider adding ventilation &/or shading hives in full sun in peak temps.
• Brood production past peak	• Lower brood might not indicate problem with queen
• Not bringing in nectar • Capping the nectar	• Harvest honey after nectar flow. If delay, bees eat honey. • After harvest, put supers back on for 24 hrs & bees will clean comb, & limit entrance to prevent robbing. • After harvest, freeze frames for 3 days, store with PDB. • Can open store frames outside, watch for wax moths & pests.
• Bees preparing for winter	• Feed after honey harvest. Build to 30 lbs honey before Oct. • Feeding builds comb now, instead of in nectar flow.
• Varroa mite levels increasing • 3+ mites per 100 bees is threat	• Keep colony strong. Monitor for Varroa. • Implement IPM. Honey supers & temperature limit treatment • Drone brood removal, screen bottom board, powdered sugar
• Disease, Pests? Larvae should be white, curved, glistening.	• Address if larvae are dark, chalky, distorted, or dry • Keep space consistent with amount of bees
• Strong hives may swarm	• Add box when frames are 70% full (brood, honey, nectar) • Rotate boxes (don't divide brood) • Checkerboard honey. Don't checkerboard brood. • Split the colony, if you have another queen

Queenright, Nutrition, Pests, Diseases, Housing

Honeybees & Native Pollinators

- Do honey bees compete w/ native pollinators
- It's complicated. Depends on density of plants & pollinators, but sometimes, yes.

How to Help	Honey Bees	Native Pollinators
Plant a pollinator garden	✓	✓
Grow flowers all year	✓	✓
Provide a water source	✓	✓
Stop using insecticides	✓	✓
Reduce using herbicides	✓	✓
Plant native plant species	✓	✓
Provide shelter, incl winter	✓	✓

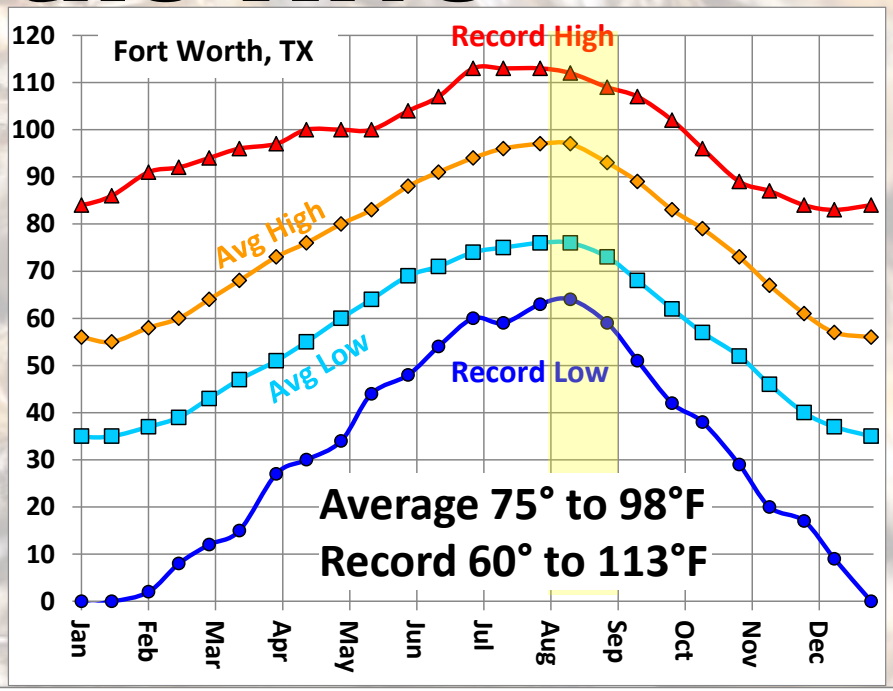
- Beekeepers also help native pollinators
- We can do more, along with naturalists

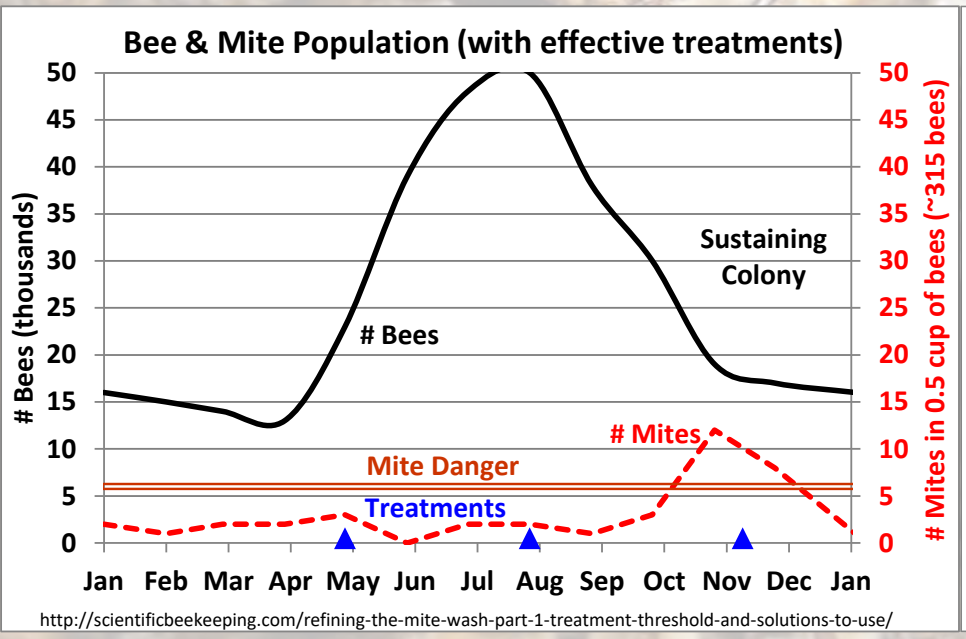
Home-made Bee Nests

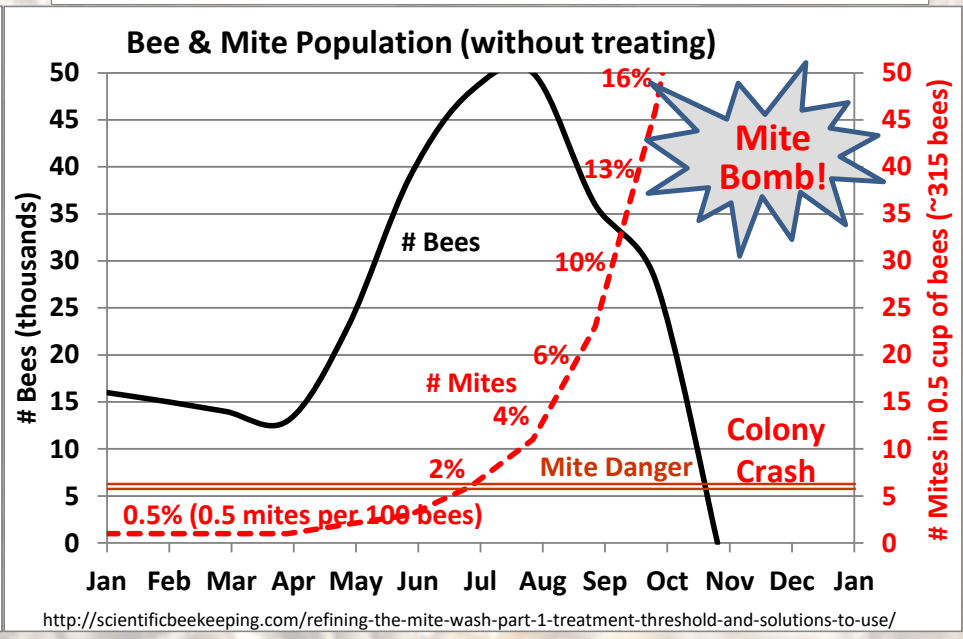
www.xerces.org/publications/fact-sheets/nests-for-native-bees (zer-sees)

August in the Hive

- Hot & dry
- Nectar flow May to early July-ish
- Bee growth slows
- Mite count likely growing
- August is a critical month to check / treat for varroa
  - Help bees survive winter

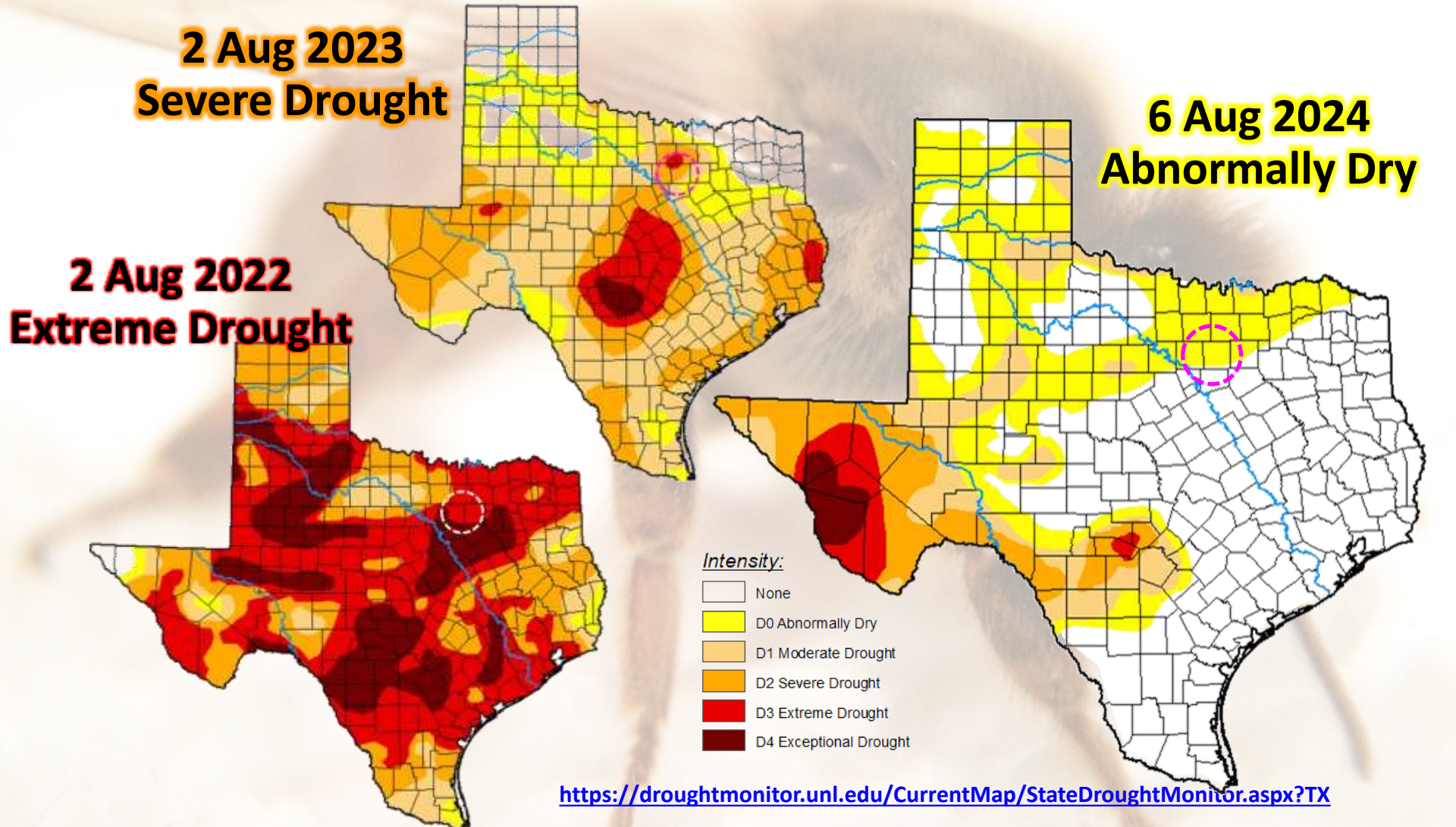






Drought Conditions

- **Make sure bees have water**
- **Feed syrup & pollen after final harvest, to prep for winter**



https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX

August in Hive: Bees & Beeks

Bees	Beekeeper
• HOT & DRY!	• Make sure bees have reliable water supply. • If excessive bearding, consider adding ventilation, an empty top box, &/or shading hives in full sun in peak temps.
• Brood production past peak • Need pollen to feed brood	• ~6 frames of brood is good. If less, maybe low pollen. • You can put out dry pollen to find out if bees need it • If < 0.5 frame of pollen/hive OR larvae dry (not glistening), add pollen sub to strengthen winter bees, 0.5 patty/wk, remove any remaining after a week or you're growing SHB.
• Not bringing in nectar • Bees are preparing for winter	• Feed if needed to have 30 to 40 lbs honey storage • 1 med frame of honey both sides is ~3 lbs. • 1 deep frame of honey both sides is ~4 lbs. • Trickle feed helps avoid too fast growth, not sustainable. • 1/4 to 1/2 gal syrup per week until 30 to 40 lbs
• Varroa mite levels increasing • 3+ mites per 100 bees is threat	• Keep colony strong. Monitor for Varroa. • Implement IPM. Honey supers & temperature limit treatment • See "Help Bees with Varroa Mites" on our Resource webpage
• Disease, Pests? Larvae should be white, curved, glistening.	• Address if larvae are dark, chalky, distorted, or dry • Keep space consistent with amount of bees

Do inspections to learn health of colony.
Queenright, Nutrition, Pests, Diseases, Housing.

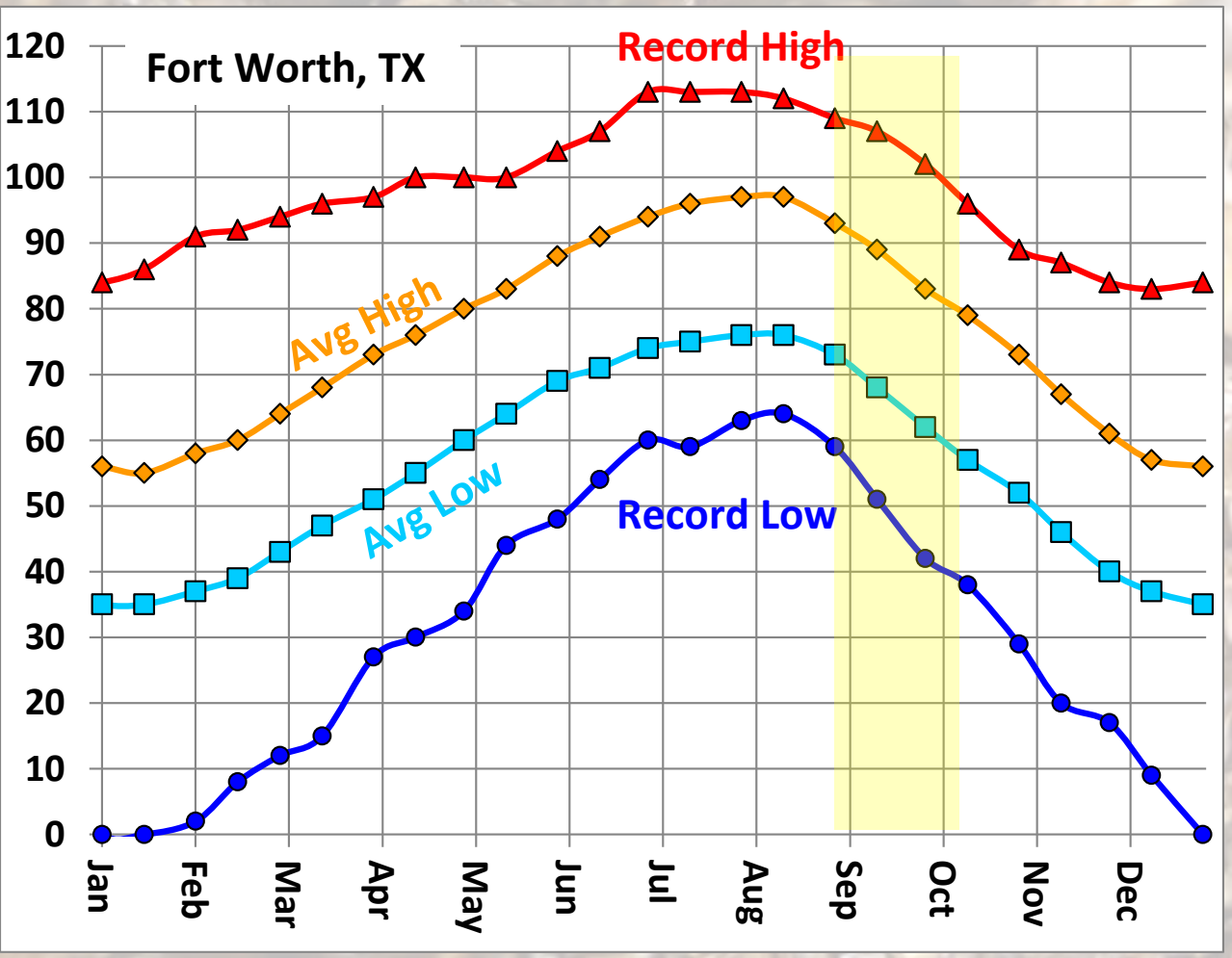

Temporary Shade
9am
5pm

Mosquito dunks are safe for bees & environment

We put them in French drains, rain gutters, etc.

September in the Hive: Weather

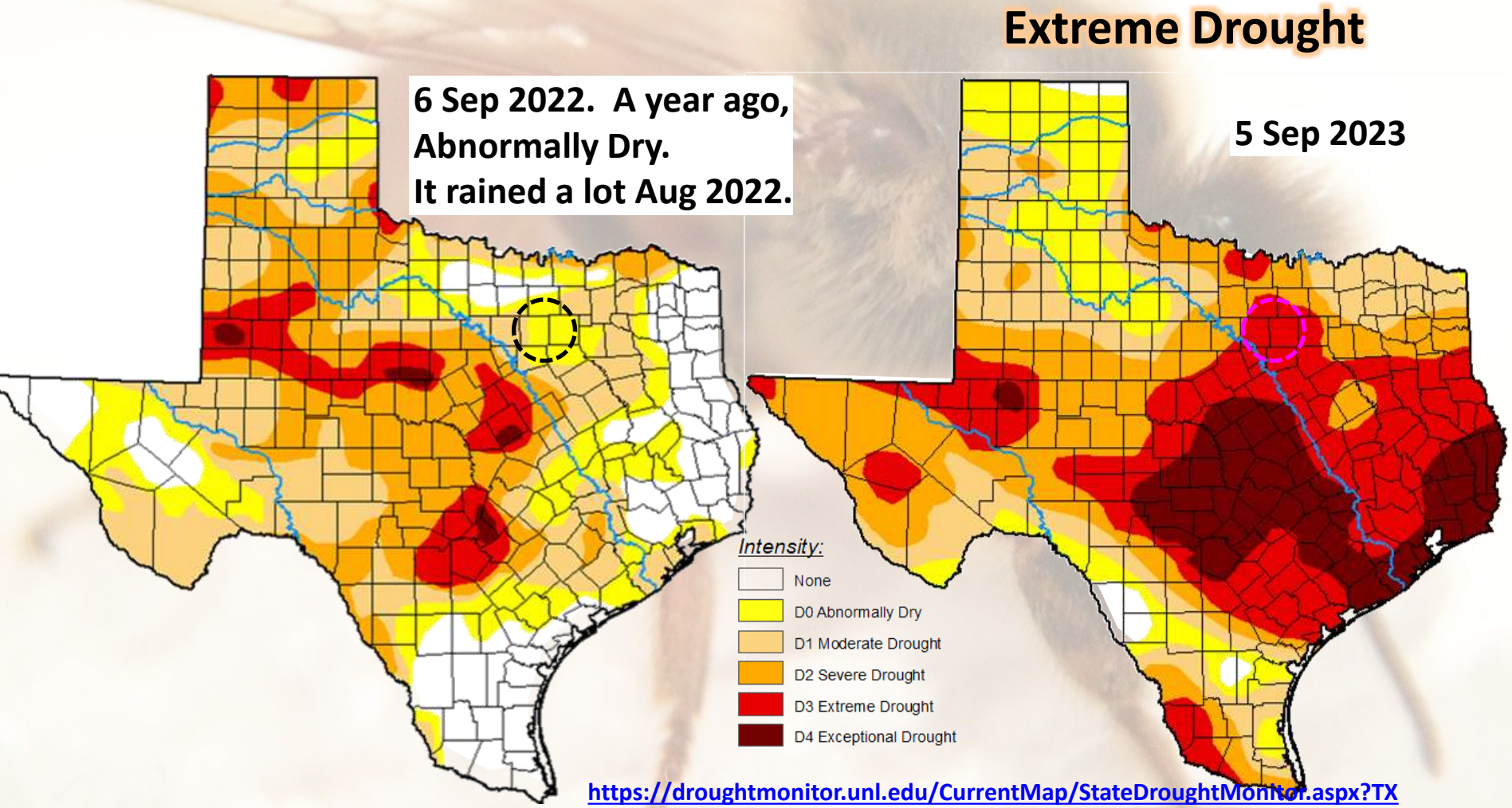
- **Temperature: Record low of 40° to high of 108°F**
- **We survived the peak temperatures**
- **Can still be very hot, or can be too cold to forage**



- **We generally get rain, but often not producing good pollen**
- **How much pollen is going into your hives?**
- **Is the pollen nearly all one or 2 colors?**

Drought Conditions

- **Make sure bees have water**
- **Do you need to feed pollen & syrup to prep for winter?**



https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX

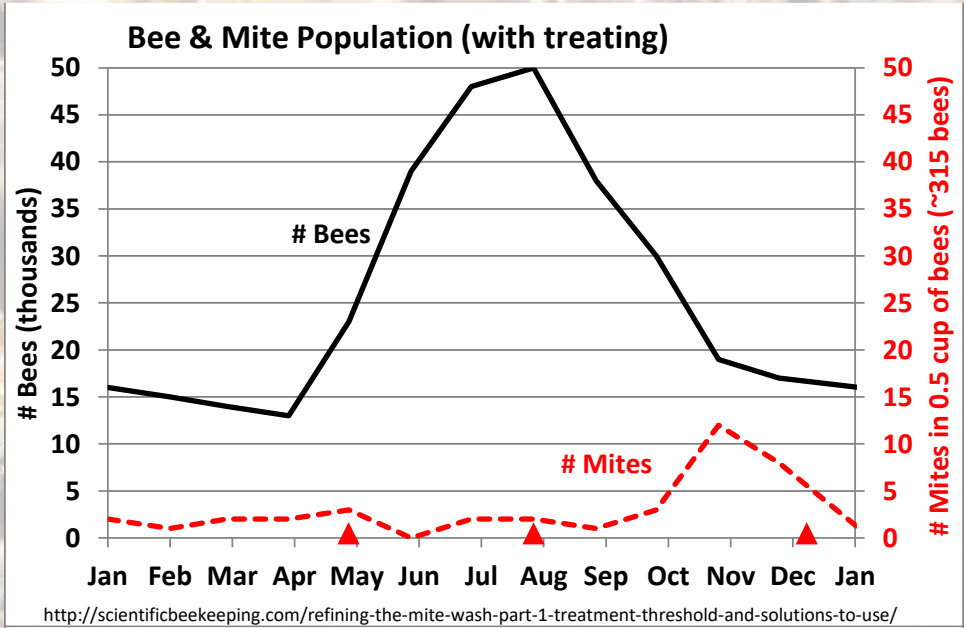
Minimize Winter Colony Losses

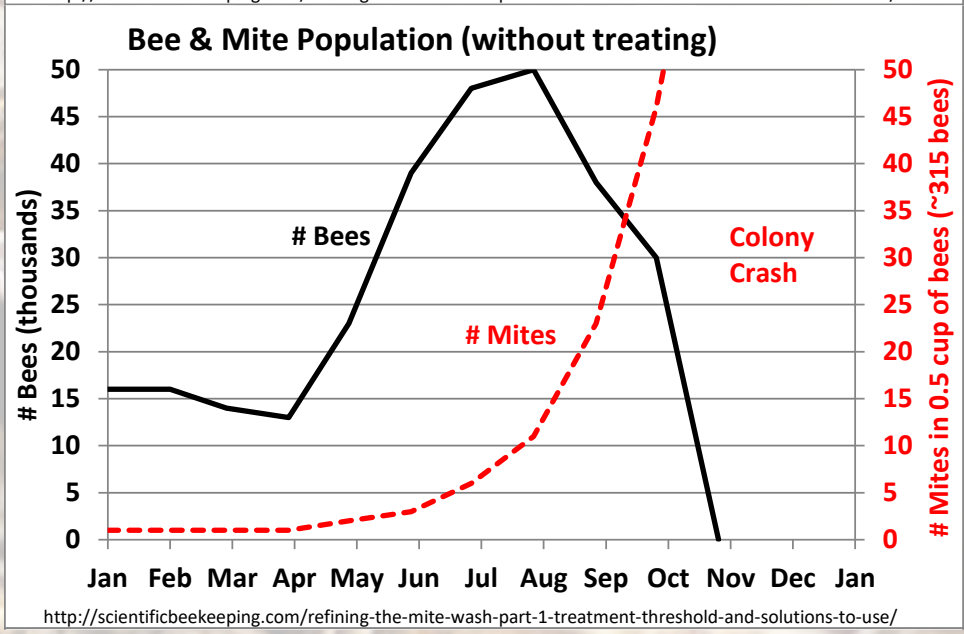
Causes	Beekeeper Actions to Reduce Risk
• Varroa (& viruses they brought in)	• Test for Varroa. Take action when needed.
• Starvation	• Build & keep 30 to 40 lbs of honey stores before daytime temperatures drop to ~60°F (~ mid-Oct) • Maybe provide pollen supplement Aug thru Nov, to raise stronger winter bees • Ensure reliable water supply
• Failing queen	• Inspect to know if queen is productive: capped brood, larva, eggs, # of bees. • Requeen as needed. Queens are harder to get.
• Freeze: • Too few bees to keep warm • Moisture, bees getting wet & cold	• Keep colony strong going into winter • Combine as needed • Provide wind break • Provide proper ventilation • 2:1 syrup instead of 1:1
• Small Hive Beetle, Wax moths	• Keep colonies strong. Combine as needed. • Reduce space consistent with bee population • Beetle traps • Don't leave pollen patties in for more than 7 days

Inspect for: Queenright, Nutrition, Pests, Diseases, Housing

September in the Hive

- Mite population may still be increasing
- Important to check for Varroa
  - Sticky board
  - Sugar roll
  - CO2 anesthesia
  - Alcohol wash
- Act if > 2 to 3 mites per 100 bees (6 to 9 mites in half cup)
- Follow instructions on treatments





Other Tips

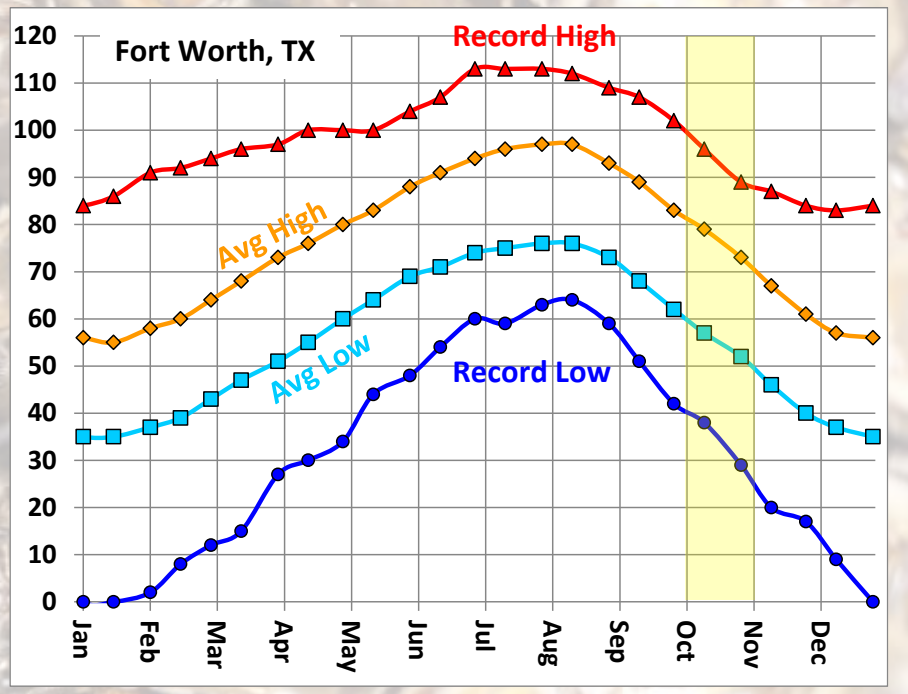
- Storage of frames & boxes
  - Deep freeze frames for at least 2 days
  - Store w/ PDB moth crystals (not naphthalene moth balls)
  - Store outside on rack

- Order bees for Spring
  - If you want to be sure of a delivery date

October in the Hive: Weather & Colony Population

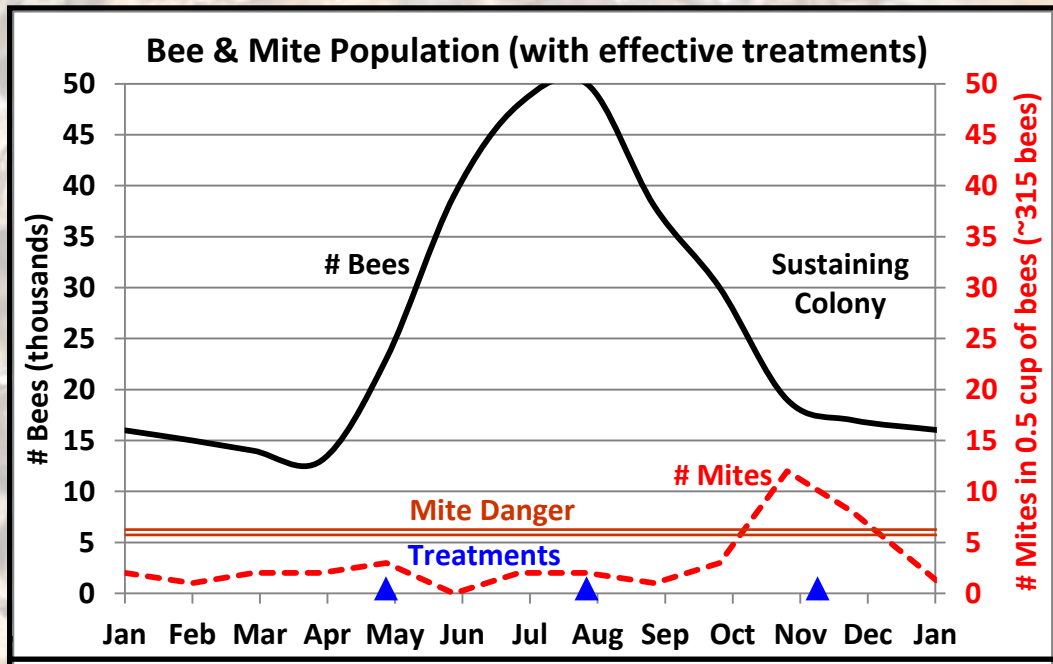
- **Temperature**
  - **Record 25° to 100°F**
  - **Avg 50° to 80°**
  - **1st freeze Oct to Jan (avg Nov 22)**
- **Nectar flow low/none**

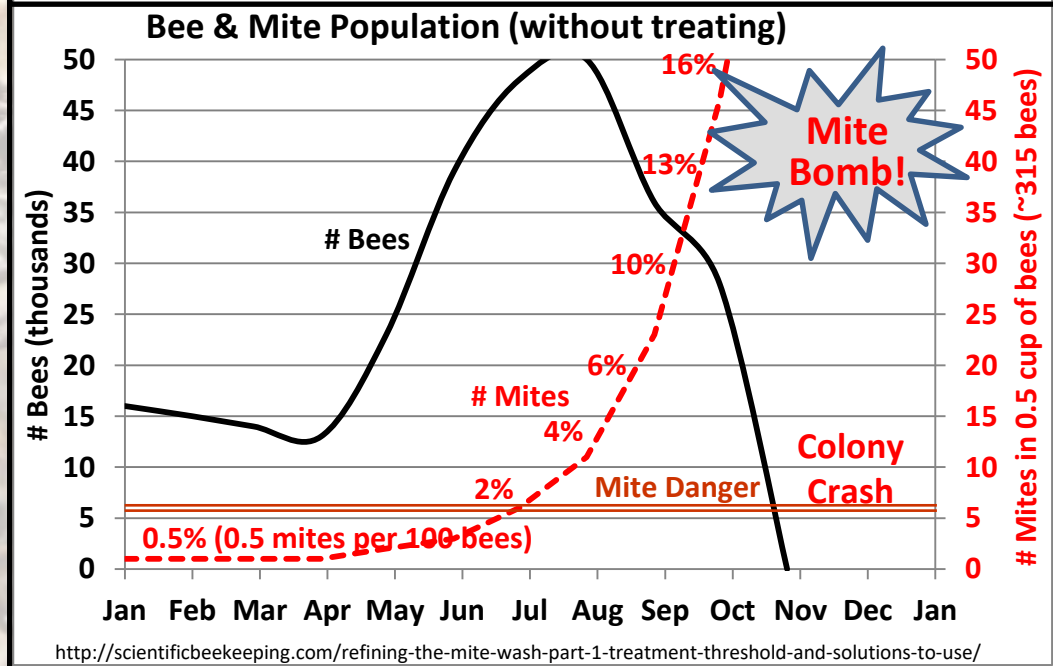
- **Help colonies prepare to survive winter**
- **Keep feeding until each colony has 30 to 40 lbs of honey**



October in the Hive

- Mite population likely increasing
- We almost never see mites with our eyes
  - But they are there
- Check for Varroa
  - Sticky board
  - Sugar roll
  - CO2 anesthesia
  - Alcohol wash
- Act if > 2 to 3 mites per 100 bees (6 to 9 mites in half cup)
- Follow instructions on treatments





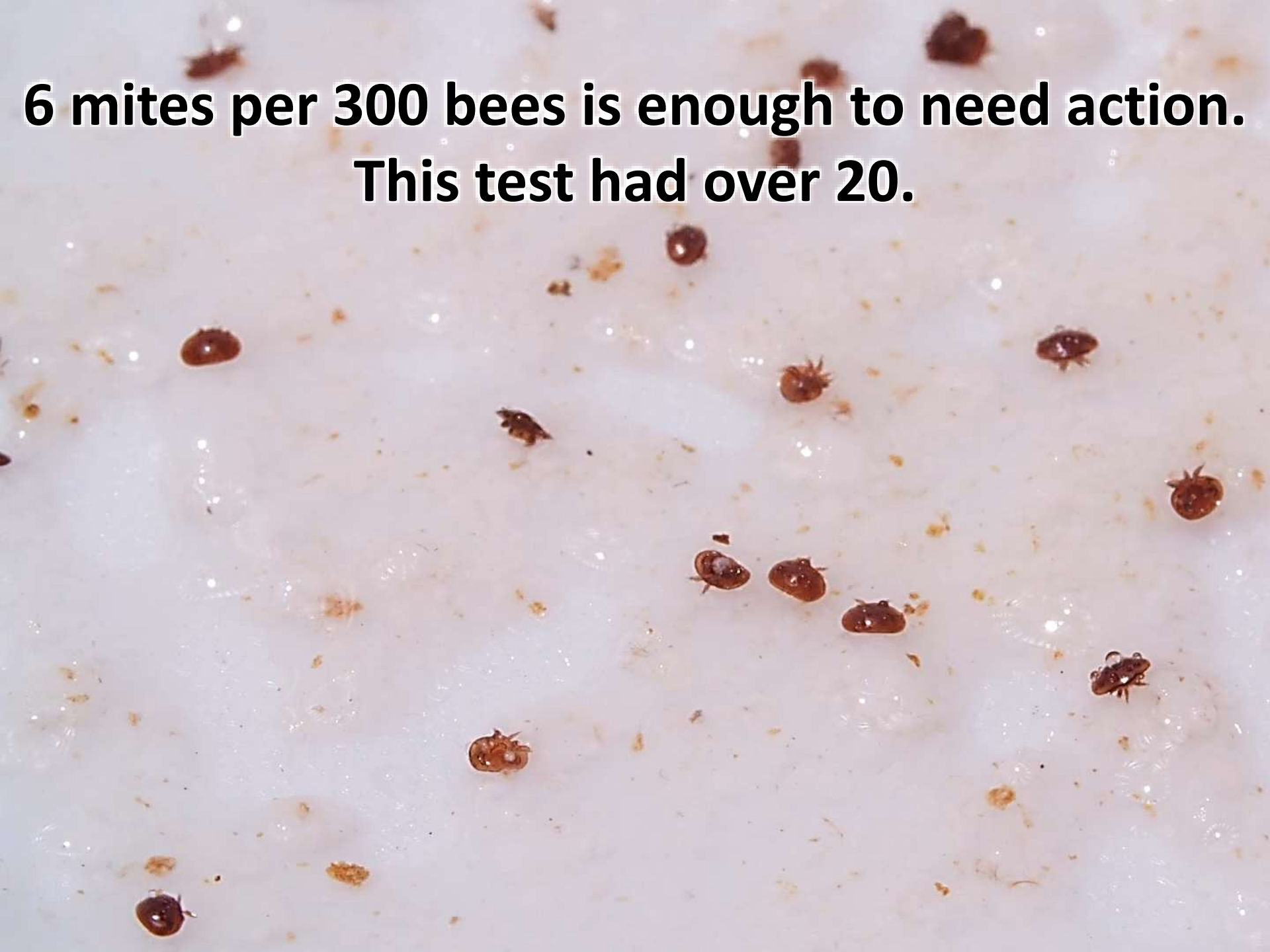
http://scientificbeekeeping.com/refining-the-mite-wash-part-1-treatment-threshold-and-solutions-to-use/

October in Hive: Bees & Beeks

Bees	Beekeeper
Some hives are queenright. Some are not.	Inspect (on warm dry day) & find out if queenright. If weak (less than 6 frames covered w/ bees on both sides), newspaper combine into stronger hives. Probably too late to re-queen.
No/low nectar coming in. Bees are preparing for winter.	Consider feeding sugar (2:1 syrup, fondant, brick). 2 parts sugar to 1 part water. Why 2:1 in Autumn? Build to ~30 lbs honey storage before first freeze. Don't overfeed. Leave room for brood. Consider feeding pollen sub to strengthen winter bees.
Bee population is decreasing. Workers emerging now should live through winter (less flying).	Bring hive boxes down to winter size. No queen excluders. Use entrance reducers. Cover bottom screens before cold. To store, freeze frames for >2 days, & store with PDB moth crystals (not moth balls), or whatever your storage choice.
Varroa mite levels may still need attention	Test for Varroa. Keep colony strong. Implement your Integrated Pest Management plan. Some treatments have minimum temp 50°F. Follow labels.

- **Hive w/ low # mites & good stores likely to survive**
- **Queenright, Nutrition, Pests & Diseases, Housing**

Varroa is the most common cause of colony loss


6 mites per 300 bees is enough to need action.
This test had over 20.


Looking down into cell after pupa removed.
2 adult female mites. 7 new mites.
Search: deep look varroa
www.pbs.org/video/varroa-mites-are-a-honeybees-8-legged-nightmare-hiifga/

November in Hive: Bees & Beeks

- **All year: Queenright, Nutrition, Pests & Diseases**

Bees	Beekeeper
Queen health	Eggs & larvae are good sign. Brood patch decreasing is fine.
Some hives are too weak to survive winter	Count frames of bees. Can be done with quick check. Combine weak hive, < 4 or 5 frames of bees on both sides.
Prepare for cold, food: • Bees keep eating to have energy to generate heat by constantly moving muscles	Beekeepers prepare for cold weather: • Feed if needed for 30-40 lbs of nectar/hive • Bees won't take syrup below ~50°, but will take fondant or a sugar brick, which will also absorb moisture (good). • If you put syrup in inside feeder, add about a teaspoon of vinegar per gallon of 2:1 syrup (2 parts sugar to 1 part water for winter), or else syrup can spoil. Also helps pH. • Check pollen stores. Can supplement if low. Remove by 9 days.
Prep for cold, housing • Seal cracks • Cluster when cold	• Provide wind break. Entrance reducer stops mice. • May want to close screened bottom. Keep ventilation. • Remove queen excluder last month
Varroa mite levels may still need attention	Monitor for Varroa. Use IPM to keep < 2 mites/100 bees. Treatments can be especially effective when low brood. Oxalic Acid, Hopguard, Apiguard. See MBA Resources, "Varroa Mite" Treatments have limits. Follow labels for safety (yours, bees, honey)

Winter Storage Options

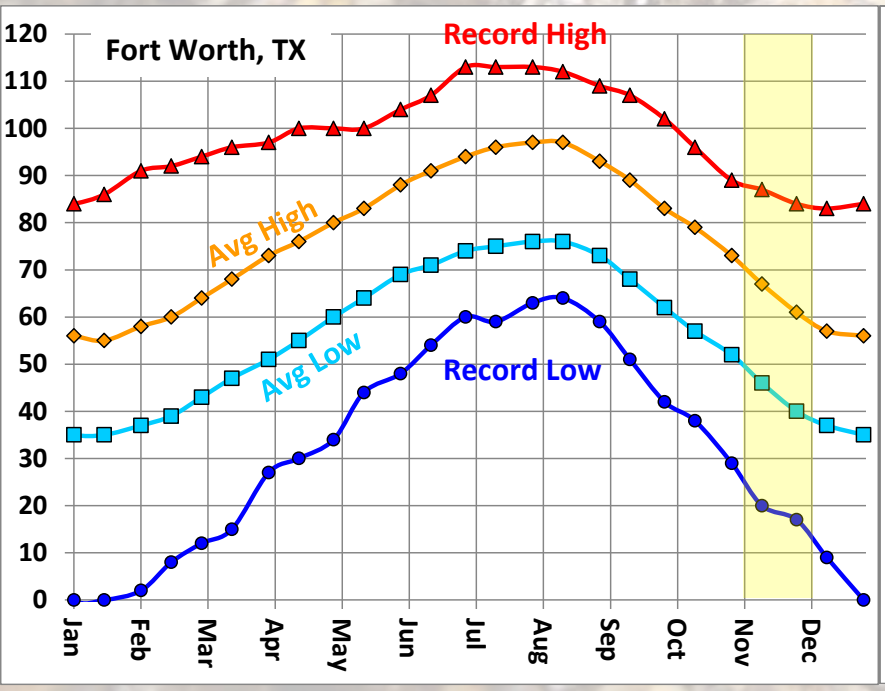
- **Open storage**
  - Inside: Good ventilation & Certan
  - Outside: Off ground, Good ventilation & sun, Covered to not get too wet
- **Seal in bags** w/ moth crystals PDB, refresh
  - Not moth balls, naphthalene
- **Freezer**
  - Who has enough freezer storage for all your frames?
  - Freeze frames after harvest & before winter storage to kill pest eggs or larvae
- **Certan** spray prevents wax moths
  - No danger to bees or humans

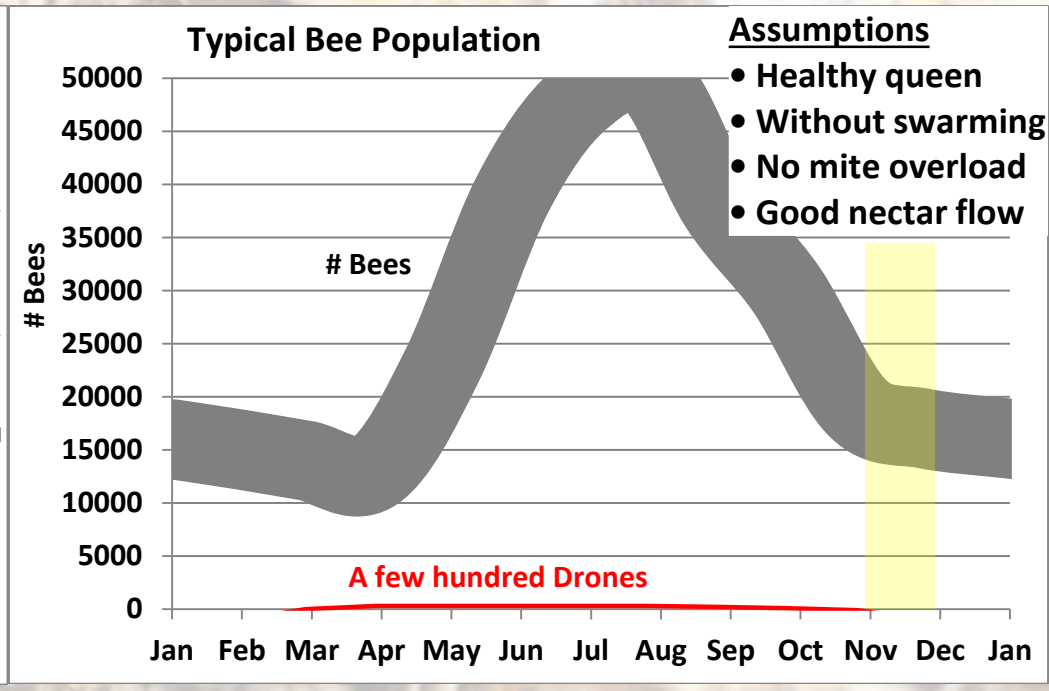
Prepare for Spring

- Order bees?
  - Nucs, queens, hives
  - Can still order in Jan or Feb
    - You'll be last in line, so later in Spring
    - Less strong hive during nectar flow
    - Later supply runs out
- Clean & maintain equipment

November in the Hive: Weather & Colony Population

- **Temperature**
  - **Record 15° to 88°F**
  - **Avg 40° to 70°**
  - **1st freeze Oct to Jan (avg Nov 22)**
- **Nectar flow low/none**
- **Bee population is decreasing for winter**
- **Mite load may warrant attention**





December in Hive: Bees & Beeks

- **All year: Queenright, Nutrition, Pests & Diseases**

Bees	Beekeeper
• Bees keep eating • No nectar & not much pollen coming in	• Check if 30 to 40 lbs (10 frames) honey • Bees won't take syrup below ~50°, but will take sugar brick on top bars in shallow box, will also absorb moisture (good). • Bees may eat neighbor's chicken feed. Feed open pollen.
• Maybe no brood or eggs	• That's ok until late Jan or Feb, depending on weather
• Clustering when cold	• Provide wind break. Use entrance reducer. • Close screened bottom. Keep ventilation (popsicle sticks under top cover edges)
• Wintering bees have die-off	• If box nearly empty, you can remove box, but not necessary
• 40% to 50% hives may die	• React quickly. Freeze frames for 2+ days to kill pests. • To protect from pest damage, store open-air or in plastic bags with PDB moth crystals. In Spring, air-out & give to bees.
• Cleansing flights, warm day	• Tolerate little yellow spots on car
• Need clean comb	• Rotate old or dirty comb, replace with new frames
• Need nice neighborhood	• Repair boxes, re-paint boxes, repair stands, prepare ground
• Need to relocate	• Easy to move hives on cold days
• Need more neighbors	• Order bees / queens for Spring, provided in sequence of order

METRO BEEKEEPERS