What is your April Plan? by Dewey M. Caron

April is a month of contradictions in beekeeping. We might find dead colonies this month, we might have some colonies that are weak, others developing normally (average) and we likely will have some very strong colonies. All in the same apiary. Beekeepers need be flexible this month and prepared for almost anything with developing spring colonies.

April Colonies are often living 'on the edge'. Foragers need to get to flowers to collect pollen and nectar but weather may or may not be favorable for flight. A cold spell can mean loss of even strong colonies. April is month of contradictions. Things can change quickly in colonies.

In April, an overwintered nuc can be extremely useful. Nucs need to be made up in the fall and successfully survive the overwintering period. Overwintered nucs might grow normally to become productive once moved to standard equipment. Or nucs might be used as a 'resource hive' – a backup to bolster a weak colony or to replace a colony that is queenless, or to unite to a colony to 'save' it from starving.

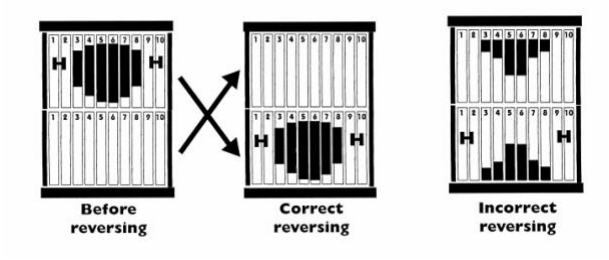
So What is your April Plan? Because an apiary may have one colony on edge of starvation to others 'busting at the seams,' we need to determine the status of a colonies' brood and food. This starts with hefting (to get estimate of weight i.e. amount of honey stores) and then opening top and looking down (i.e. get idea of population size). If above 70 degrees and little wind, open and then examine brood frames. Evaluate brood pattern (i.e. healthy colony). Look on frame with open brood to confirm eggs are present (i.e. we have colony with normally functioning queen). April inspections should be done as quickly as possible in marginal weather. **Colony inspection gives the best and most accurate opportunity to evaluate the condition of a colony**.

April is a "fun" month for colony inspections. Bees are busy, given good weather, and each colony has a different 'story' to tell. April is the ideal month to start a new colony whereby the new unit has the best chance of providing a return or to become strong enough to survive the first winter. New colonies can be purchased packages and nucs, both coming from other sources or splits (or divides or nucs) made from surviving colonies. Dividing a strong colony can reduce the size of a colony rapidly expanding and reduce changes of it swarming and also reduce a growing mite population. A real win-win-win. There are risks in starting a new colony but one of the potential gains is the opportunity to observe and help guide a new colony. **New colonies are fun to manage.**

April is a month to feed. Feed until you get tired of feeding or bees stop taking your offerings. Feed both protein (pollen patties) and sugar. Early in month, if still cool, feed day sugar at colony top (over inner cover or on newspaper directly on top of the frames) or as a sugar candy. The dry sugar/candy should be fed at top so warm air that escapes the bee cluster softens the dry feed into a slurry. Syrup, usually a lighter mixture of 1 part sugar to 1 part water, is OK as long as

additional moisture stress is not a factor. Feeding helps extend the natural pollen and nectar available to bees; bees will need and will take advantage of supplemental feeding in springs that are cool so forager flight is limited. Feeding sometimes is not fun but it can provide a big boost to colony development.

In April, one fun management is to seek to guide colony expansion. Colonies that successfully overwinter have moved upward and are usually often in the top box, presuming your hive has 2 boxes for brood. The lower box is often empty - a walk-through from entrance to brood frames in top box. Reversing the boxes allows the developing colony to expand upwards, the most natural movement. If however the April cluster is between the two boxes, reversal can double the work for the colony; it now has brood in 2 areas that it needs to keep warm, to feed and care for. Reversal can 'push' a colony to fully utilize the frames of both boxes, resulting in the rearing of more brood and colonies becoming larger. By additional feeding and the bees being able to get out and take advantage of natural pollen and nectar resources, colonies become larger than if left to expand by themselves. **Timing of brood box reversal is critical – it takes practice to get it right.**



April is an opportune time to cull frames. Remove outer frames and frames of the lower brood box that are black from repeated brood rearing and/or frames that have large amounts of drone cells. One plan is to remove 2-3 frames from each colony each year. April is also a good month to draw frames of foundation (or obtain natural comb frames) - the best method is to put the frame you wish drawn naturally (without foundation) between two drawn comb so the bees tend to stay within the frame outline. Well-drawn frames are our most valuable asset and we always need more drawn frames. Spring expansion usually is the most ideal time to get more drawn frames of worker cells.

April also is time to harvest capped drone brood as a non-chemical mite control. Use the special drone foundation frame or use a capping scratcher to disrupt cappings of drone brood scattered within the brood area.

In April we might make up a new nuc from a strong colony or from frames from 2-3 colonies. Taking a nuc, i.e. dividing, a strong colony, might avoid swarming of a strong colony. April nucs are normally made from 3 frames – 2 mostly with capped brood and the third with some open brood, bee bread and honey. A fourth feed frame (frame mostly filled with honey) is added +

the box filled with a 5th frame (drawn or foundation). If you lack nuc boxes, divide a 10 frame box using both sides to start 2 nucs. Spring nucs can be a resource or they can be allowed to build up and may even become a productive colony for the current year.

Probably one of the greatest fun activities during spring with bees is capturing swarms, especially if they are coming from colonies other than our own. We should be capturing swarms by the end of this month. Because swarming is so basic we will not be able to prevent all colonies from swarming, despite our best efforts.

Swarms are the division of an existing colony. The swarm is the old queen and ½ to 3/4ths of the workers of a parent colony forming a temporary bivouac while scouts are searching for a new permanent home. They are "free bees" to start a new colony – though capture sometimes comes with a real "lesson". If convenient swarm location (close to ground, close to you), swarms can be very easy to capture. Capture swarms directly into an empty hive – otherwise into a basket or other capture structure, then transfer to a standard hive as soon as possible. NOTE: Swarms high in trees are best left for those better equipped for swarm capture.

The "remedy" to avoid having swarms in your colonies is weekly looking for developing queen cells. If colonies start to rear queen cells in April, May or June, divide (=split) the colony. There are any number of ways to split a big, strong colony. This photo illustrates a skillful way to split. The colony in middle (A) was rearing queen cells in mid-April so the 3 frames with queen cells were removed and put in the top box of B (with entrance turned 180 degrees) along with a frame of honey and an internal hive feeder. All remaining developing queen cells in the parent colony were destroyed and the colony provided 4 foundation frames in middle of top brood box. When the queen cells emerged, colony B ended up with a new virgin queen. She then mated within 2 weeks. Colony B is being managed to develop into a strong colony to overwinter.

Two weeks after, examination of Colony A revealed more developing queen cells. So 3 frames of brood (2 capped and one open brood + a frame with honey) was removed and put in box C; box on top is empty shell to accommodate syrup feeder. Colony C was provided with a caged mated queen. All remaining developing queen cells in Colony A were destroyed and the 4 frames removed replaced with drawn comb frames. With successful emergence, Colony C had a queen,

it was queenright, and managed for rest of season to develop into strong overwintering colony. Colony A was supplied three (baited) supers A so they might store a honey surplus. **Objective accomplished: Col A did not swarm and it produced 2 new colonies (B & C) + a honey surplus**.

So April is a fun month with lots of possible managements to perform, depending upon the developmental status of individual colonies. Not everyone however who starts a bee hive wishes to be so involved and to do such intensive management. Some want bees but not the management. Some wish to keep bees in smaller alternative hives such as the Warré hive or in a top bar hive (Zenger Farms far top bar hive shown in photo). Individuals might have other objectives or goals. Some seek to improved bee stock via local selection. Others wish to keep bees in a "natural" (sometimes called Darwinian or api-centric or treatment-free) method. There is no one way to manage bees. Certainly not all beekeepers are after the same experience or rewards from their keeping bee hives.

"Natural" beekeeping, following research developed from studies on bees in bee trees, involves keeping bees in smaller sized boxes (such as the Warré or top bar hive or simply using a single Langstroth box for brood) so they swarm. Smaller cavities and more frequent swarming has been demonstrated as a way populations of bees in bee trees reduce the harmful effects of mites and the viruses they transmit (.e. via a brood break in the colony with swarming, something beekeepers can manage for but which is done naturally by unmanaged bees). "Natural" beekeeping means not bringing in stock from outside so there is no purchasing of packages or nucs; splitting (dividing) stronger colonies is practiced to replace losses, with bees rearing their own queen. Losses can be expected to be heavy in some years so a "natural" approach usually means accepting continuous heavy losses and, since colonies do not get large and they frequently swarm, there is little or no honey harvest from such colonies.

"Natural beekeeping is "management-light". Colonies are not fed, nor are boxes reversed and there is no frame culling; all frames are natural comb, drawn with use of foundation. Treatment for mites should still be done using organic acids or essential oils when mite populations get above a 5% level. A sub-set of Natural beekeepers, individuals who practice treatment-free, do not do use synthetic chemicals for mite control and some elect not to use "organic acids or essential oils. Without mite control colonies with heavy mite numbers die. This is the so-called "Bond" method, after James Bond movie with title of "Live or let die"!

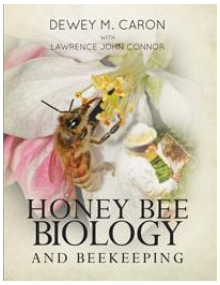
Individuals who are seeking to make "stronger" bees, better able to fight mite infestations, practice what is termed local selection or 'survival of the fittest'. By promoting swarming, not bringing in stock, not "artificially" seeking to help bees fight mites (i.e.by not managing their colonies beyond dividing), only allow bees that survive to produce offspring colonies. Again this is following research on how bees in bee trees continue to survive.

Conditions; Natural beekeeping is not for everyone. To be truly natural individuals should have their bees near natural areas (so there are tree cavities to house the swarms) and should be isolated from near neighbors (since swarms frighten neighbors who often do not understand bee swarming and may only view honey bees as stinging insects) nor keep their bees in areas where there are other beekeepers. This condition is necessary because colonies not treated that are allowed to build mite populations are potential "mite bombs" that make beekeeping more difficult for beekeeping neighbors. Research has shown that mites drift from heavily infested colonies into those with fewer mites.

One final condition, often not well appreciated, is that the time frame for a change to occur in a population is much, much longer than we might appreciate – it takes evolution a long time to change a population. Individuals would need a lifetime of such "natural" beekeeping to begin to see a change.

There is truly no one right way to keep bees – evolution is a long-term and continuing process, in both the bees and in our beekeeping. Instead of halting the evolution of man as shown in this tee shirt design, from a manufacturer of alternative hives, as keeper of bees in skeps (i.e. a smaller hive that promotes swarming and a hive which we don't manage) perhaps we should include the next logical step in evolution of a beekeeper to depict man as a keeper of bees in movable frame hives. Most bee associations/bee schools teach movable frame management, including keeping mite populations in check, along with timely intervention as part of good bee stewardship. April is one of the months where timely intervention is intense, highly individualized – and fun!

So are you in the April Bee Stewardship picture? You and couple of your friends/family members? April is a fun month. Time to get out, open and evaluate the hive and enjoy your bees.



I recommend my book **HONEY BEE BIOLGY AND BEEKEEPING** as part of the fun. Spring management is covered in Chapter 14. If you have questions or concerns email me dmcaron@udel.edu I will seek to respond in a timely fashion.