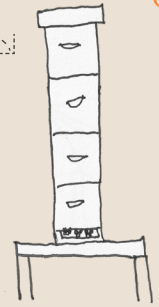




ALTERNATIVE BEE HIVE CASE STUDY: NUC HIVE

alternative hive details



The standard hive in Nebraska is a traditional Langstroth.

The Center for Rural Affairs conducted a research project with outside beekeepers, designed to compare and highlight four alternative hive structures: Nuc, Shallow, Top Bar, and Long Langstroth. Each beekeeper was required to keep an alternative hive, as well as two traditional Langstroth hives to use as controls.



This is real-life feedback over the course of three years from two seasoned beekeepers. To learn more about our work with beginning farmers and beekeepers, visit cfra.org/farmers.



BEEKEEPER A:

- Seven years experience
- Saunders County, Nebraska

Hive location details:

Windbreak – Small shed nearby

Sunlight amount – Late afternoon partial shade

Water access – Pond on property

Floral resources – Various pollinator plots, Seed a Legacy program in our area, abundance of alfalfa close by



BEEKEEPER B:

- Three years experience
- Jefferson County, Nebraska

Hive location details:

Windbreak – Grove of trees north of hive

Sunlight amount – Full sun all day; mid- to late-afternoon shade

Water access – Water dish for cats and chickens and condensation from air conditioning units

Floral resources – Weeds, field crops, pasture nearby, trees flowering in spring, vegetable garden throughout the summer and fall

- > Pronounced “Nuke.”
- > Half as wide as a traditional Langstroth, only holding five frames.
- > Uses traditional Langstroth frames.
- > Can weigh between 20 and 40 pounds, depending on the contents—brood or honey.



PROS

BEEKEEPER A:

- Easier to store equipment when not in use
- Less disruptive to bees
- Could move entire boxes during instruction

BEEKEEPER B:

- Entire hive uses deep frames
- Because of small box size, a whole box can go in a chest freezer if there is need to freeze frames

CONS

BEEKEEPER A:

- Carrying a 5-frame deep box is heavy; difficult to take off the top of the hive
- Ladders and straps make working with the hive more physically challenging

BEEKEEPER B:

- Standard candy board and top feeders don't fit
- Fall over easy
- Hassle to take straps off each time
- Height makes it difficult to manage; requires beekeeper to reach above head



TIMELINE AND EXPERIENCE

BEEKEEPER A:



YEAR ONE - 2020

- Bees arrived in April. Installation went well and bases were level. Used recycled carpet under hives. Packages and queens were healthy and started laying in all six hives. Overall, easy hive install.
- Used Rocky Mountain Dry method to feed bees in the spring.
- Nucs were very tall. Four boxes were used for brood and added several more; that required use of a ladder, which was physically challenging. Inspecting the hives was not a pleasant experience.
- No honey was harvested.
- Treated for mites in the fall with oxalic acid.
- Frame feeders were used in the fall.
- Reduced bee entrances for the winter.
- One of the Nucs blew over in a blizzard. Restacked and strapped down the hive with tie downs.
- One hive survived the winter.

YEAR TWO - 2021

- Bees arrived in April. Installation went well.
- Frame feeders were used in the spring.
- Difficult keeping a queen alive over the summer.
- Harvested two gallons of honey.
- Treated for mites in the fall with Apigard.
- Frame feeders were used in the fall.
- Winter was dry and warm.
- No hives survived the winter.



YEAR THREE - 2022

- Bees arrived in April.
- After installing bees, they all later absconded.



BEEKEEPER B:

YEAR ONE - 2020

- Bees arrived in April.
- Had difficulty setting up the wireless Broodminder scale and app.
- Frame feeders were used in the spring.
- One of the Nucs blew over in a summer storm. Restacked and strapped down the hive with tie downs.
- Treated for mites in the fall with oxalic acid.
- Harvested approximately three gallons of honey.
- Frame feeders were used in the fall.
- Used tar paper to wrap the hives for overwintering.
- Winter was cold.
- No hives survived the winter.



YEAR TWO - 2021

- Both Nuc hives were replaced. Bees arrived in April.
- Fed sugar water in the spring.
- Again, a Nuc blew over in a summer storm; hive was strapped down.
- Harvested seven gallons of honey.
- All hives fed in the fall.
- Noticed significant population declines late fall.
- Treated for mites in the fall with oxalic acid.
- Bees died late fall.
- Winter was mild.
- No hives survived the winter.

YEAR THREE - 2022

- Both Nuc hives were replaced. Bees arrived in April and showed up dead; second bee delivery arrived one week later.
- New bees had a head start on frames that already had honeycomb built.
- Treated for mites in the spring with oxalic acid.
- Summer consisted of drought conditions.
- Harvested approximately five gallons of honey.



This project was funded by a U.S. Department of Agriculture specialty crop block grant. The Center for Rural Affairs is an equal opportunity provider and employer.



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