percent every year because of all the same factors that flummox hobbyists. This causes them to split their strong hives into two every spring and move them a few miles away, so the bees don't figure it out.

"If ranchers lost half their herd of cows every year, that would be a problem," he says, "but in the beekeeping world, it is just par for the course."

Andrijiw, though, believes professional beekeepers have created some of their own problems by mass producing honey and keeping tens of thousands of hives in close proximity. He says these bee operations resemble cattle feedlots.

"That is an insane number of hives together," he says. "Mother Nature would never do it that way. Pathogens are exchanged when they get all mashed in together, just like with cattle."

## A romantic buzz

All this doom could gouge all the romanticism out of beekeeping, but for now, there are always people such as Jenelle Kemper to keep it blooming. You can hear the excitement in her voice when she talks about her new hives. Granted, she is a 4-H volunteer for the Larimer County Extension Service and therefore regularly overdoses on optimism, but there's an extra, um, buzz of excitement in her voice.

"I know NOTHING about it," Kemper says, "but we're gonna figure it all out together."

"We," in this case, are her two daughters, 10 and 7, and the 22 4-H kids—she expected three—who signed up to help her on her hobby farm in rural Larimer County. She has the property to do this, she says, so why not keep three hives? Plus, she knows more than nothing, as she took the beginner's course from NCBA in December and received "more books than I can count" for Christmas.

Her daughters are not impressed, she says, but the 10-year-old will maintain a hive as one of her projects this year. Kemper knows she will likely be stung.

"But I figure it can't be any worse than getting kicked by one of my horses," she



Photo courtesy of Beeyond the Hive.

laughs. Her animals, she says, need alfalfa on a daily basis and she can't imagine a world without bees to pollinate it.

"Look at how much these bees do for us," Kemper says. "Look at what would happen if they were gone."

Teresa Higgins, a professor of biological sciences at the University of Northern Colorado, used an observation hive to teach students about the ecosystem in 2019. She took the NCBA's beginner's course to learn how to keep the hive healthy, but even a biology professor's breadth of knowledge wasn't enough.

"It became apparent in the fall it wasn't going to survive," Higgins says. "The hive swarmed, and we don't know if we had a queen afterward."

The hive did indeed die, but Higgins hopes to try again this spring. The bees arrived in late April, this time with two hives, and she will use the observable hive to teach a course about beekeeping. Many of the students want to keep bees themselves, although the work already has intimidated a few of them.

"One said to me, 'There's a LOT to this, and I don't know if this is for me right now," Higgins says.

The public can view the bees when the building is open, and Higgins acknowledges that the hive is "good PR" for UNC.

"I would like to see it succeed for our program," Higgins says. "It's a value for our community. It shows biology in action." N

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