Today on across the fence we're all a buzz. As we see and hear about honeybees. We will get a close-up look and learn where we would be without them. Good afternoon and thanks for joining as I'm Judy Simpson. Albert Einstein once said that human beings would survive a mere four years if honeybees disappeared. You don't need to be an Einstein to know about the importance of bees in fact 40% of the food we eat is pollinated by bees. In just a moment we will learn more about bees and the stresses and strains that are being put on all types of pollinators. But first we hear from UVM extension horticulturist Leonard Perry who has a couple of ideas to feed the bees while keeping your garden growing.

If you like to eat fruits especially tree fruits like apples those are collated by things such as these. We all know that the honeybees there are many other types of pollinators out in the garden. One of the things you want to do is make sure these have food beyond the time those fruits are in bloom through the summer. One way to do that is plant flowers and the garden. One thing to be aware of with those is that a lot of the annuals that have been bred to be hybrids to be sterile. They don't provide the nectar for the bees so you want the plants such as perennials a diversity of perennials. I found is best in the garden for bloom right through the season and then the fall bees pollinators also need food. Plant spiky perennials such as these veronica's speed Wells other spiked the plants. Salvias for instance perennial Salvia is good. Ceedom Russian sage those are all good ones for fall aster's and what you can do is cut these back early in the season about halfway. They will bloom a little bit a little bit later and that would provide pollen for these pollinators right into October as well.

Keith.: Leonard are you seeing a lot of pollinators around your place?

Leonard.: Actually this year I'm seeing more pollinators and I learned why. I was talking to our neighbor and found out he's keeping bees. He said every morning the pollinators beeline right over to my garden because all of the diversity of flowers I have.

Judy.: Across the fence is Keith Silva. Keith you recently visited beekeepers in Middlebury that's a pretty sweet assignment.

Keith.: Yes very sweet. We've been wanting to do a bee story for little while on across the fence in just the timing was never right. I called up a friend of across the fence Lynn Lang and I asked Lynn who can I get in touch with and a couple weeks later here we are.

Judy.: So did you get stung?
Keith.: Yes. I got stung it was my own dumb fault. It was hard to see. They gave me a veil and everything like that but it was hard to see through the veil through the viewfinder at these tiny little insects. Later on I said to one of the beekeepers all right I'm going to be brave and about 0.3 seconds later I got stung.

Judy.: A right its good as in county where I guess you can call it bee story begins.

Keith.: I help you think its A-plus work Judy. In all seriousness were headed to the Champlain valley aviaries to the home of the president of the Vermont beekeepers association.

This is full of honey but the top two aren't. This is all brute cap brute it's not honey. Those are baby bees she's coming out and being born right now. There she is she just emerged. I came home to take over the business for my father and 2004. I worked with bees in high school and throughout my life being a third generation beekeeper. There's lots of skill to raising bees. Their complex and you have to make a lot of judgment calls. There's the queen do you see her? She's the mother of all these bees. They probably don't appreciate the disruption. On the largest employer in the state of Vermont. I have millions of employees. Yeah I have a great office that's for sure.

Judy.: Thank you Keith. With me now is Chas Mraz the president of the Vermont beekeepers association which started over a century ago in 1886 thanks for being with us.

Chas.: Thank you for having me Judy.

Judy.: Tell me a little bit about the organization.

Chas.: It's an organization which we now have 500 members which is amazing. The interest in beekeeping has just been astounding in the last few years especially since the CCD episodes came out. We have five local groups or six local groups I believe now that also work with the organization to help people be beekeepers. Learn how to keep bees successfully.

Judy.: What does it take to be a successful beekeeper?

Chas.: Well the VBA will certainly help. Perseverance might be the best thing. It's a difficult time to be a beekeeper because there are a lot of stresses on the bees. We're losing more bees in the winter than we ever have in the past. It's becoming hard to make a crop of honey. The VBA gives courses on a regular basis. Basically what they do is they bring you through your year with the bees. In the spring they will have a course where you can go and see what you should be doing in the spring and then basically you can go home and do it the next day with your own bees which is very helpful because there's a lot to know about bees and it's not an easy task to keep them.

Judy.: How many commercial beekeepers are there in Vermont as opposed to just hobbyists?

Chas.: I believe there's only about five commercial beekeepers in Vermont and the rest for hobbyists and there's a lot of hobbyists. You could save 495 others in the Vermont beekeepers association are hobbyists or sideliners there some people who we call sideliners if they have up to 200 hives or so.

Judy.: Do you have to live in the country to keep bees?

Chas.: Not all they keep bees on penthouse rooftops in New York City. Certainly Burlington or any metropolitan area here in Vermont is an environment you can certainly keep bees in.
Judy.: You mentioned earlier but there are a lot of stresses on bees and bees keep disappearing in populations. What's going on?

Chas.: We kind of wish we knew but there's a lot of possibilities and there's a lot of things going on in fact. The problem is it's not one thing that's happening with the bees. There are diseases that are out there. Summer new summer old and the Varelamite which is a parasite is perhaps the catalyst of all the problems but that problem has not yet been resolved and probably will never be with any kind of treatment. What we're trying to do is basically breed resistance of the mites with the bees.

Judy.: Are there other things that you're doing to help counteract that particular problem or other problems that bees have?

Chas.: All we do is try to work on the things we can work on. In Champlain valley apiaries the breed of our bees we let them raise their own Queens and we're basically are breeding for resistance. We're breeding for genetic diversity amongst them. The idea being that it's all the bees are related to each other and a disease comes along that they're not resistant to you can lose a tremendous amount of them or all of them so what we've been trying to do my father started this primarily is raising these that are genetically diverse. If something comes along they will have a natural resistance to those diseases in the future.

Judy.: How in the world you keep track of that?

Chas.: It's kind of a random thing.

Judy.: I mean look of all these bees!

Chas.: It's kind of a random system that's how we make nucleus Colonies. When you make a nucleus colony from these you take a strong hive. You take the brude which is on hatched these and eggs bees and honey without the queen that's and a host I've and you allow those bees to raise their own queen. When you do that you're raising them as if there Farrell. And when you raise bees in that manner you get tremendous genetic diversity. The opposition or other way of doing it is you buy queen's from a queen breeder. Then your genetic diversity goes way down. They're all very closely related and that's the way many beekeepers manage their bees by buying Queens. The problem with that is you get a very small variability of genetics with the bee.

Judy.: Does it take a long time to develop a hive that would develop its own queen?

Chas.: Well we put them together about 30 days after we put them together we go back to see if they've raised a queen. You can speed the process you can raise Queens and put them in there. There's different ways of doing that. You can certainly do that and keep some of the genetic diversity. You can put in a cell and speed the process of but it's a cumbersome way to do it. Is not that efficient as far as a way of high production but it does accomplish the task of getting a lot of diversity amongst your bees.

Judy.: How many bees are we talking about? How many bees do you keep?

Chas.: We keep around 1200 Colonies that's our target.

Judy.: Wow that's a lot of bees. Tell me a little bit about the life cycle of the bee because I know there's the queen then there are worker bees. And then there are drones is that correct?

Chas.: There are Queens workers and drones. The workers are underdeveloped female bees basically they're not sexually developed as the queen is. She's the only one that is fully developed and she's
the mother of the higher colony. She is the mother of all the bees there in that particular colony or group. The worker is the one that goes out and gets the honey and takes care of raising the other bees the younger bees and the drone is there mainly to mate with the queen if he's lucky enough to do so and he doesn't do a lot. He eats honey and that's why he gets kicked out this time a year and freezes to death outside the colony.

Judy.: You are talking about people as hobbyists keeping bees. What are some of the things that people need to think about or know about before they consider a hive or two.

Chas.: Well in is definitely responsibility that. It's like having any other kind of animal. It's maybe not as intensive as having a dog or something player taken on a responsibility to keep that colony as best you can hopefully alive. It takes work and it takes commitment? That's the important thing. Are you ready to do that? Again it's not an easy time to keep bees so you have to be ready to put up with the problems that are going to hive.

Judy.: What kind of regular maintenance do you have to do with the hive?

Chas.: There's a series of things you do throughout the season. In the spring you reverse the hive you may make a nucleus Colonies. As the summer progress is you're going to add its supers for the honey and keep the bees basically contained so that they don't swarm. You don't want to give them too little wrong and you don't want to give them too much room where they won't fill the supers probably. Then you go through an you do your major treatments for this time for the Varelamite. There are different treatments out there some more organic and that's what we do and Champlain valley apriaries. We use formic acid mainly. It's a great treatment and that it is organic. It doesn't kill all the mites but it allows the bees to survive the mite. Which is probably most important when building resistance to it.

Judy.: In the wintertime what happens?

Chas.: In the winter after we take the honey off and have treated them and hopefully have gotten a healthy generation of these ready to go into the winter. We put some insulation on the outer tub or tie the top down and leave honey on them. One thing we do I think we're probably the only commercial beekeeper in the country who does this. We feed our bees on their own honey we winter them on their own honey. In that way we sacrificed about 40 pounds of honey coming off and being extracted but we feel that it's the best way to do it. Back in the 1950s my grandfather. The winter came quickly and we didn't get all the honey off in order to feed the bees. You need warm weather to feed these. We had gotten about half the crop off and half the bees fed with the sugar syrup. And the other half of the bees we left honey on. He said we can't feed them so let's leave honey on them. The next spring the difference between the two bees who are wintered on honey and the bees that were wintered on the sugar syrup was remarkable. The bees were way ahead of the other bees and my grandfather basically said at that time if this is the result then we're going to leave honey bees.

Judy.: No kidding?

Chas.: So we have done it ever since.

Judy.: So it's hit or miss in some aspects as far as what we do know and what we don't know about bees?

Chas.: There's probably more that we don't know then we do know even after a millennia of keeping.

Judy.: Before we run out of time let's highlight the Vermont beekeepers association web site it is Vermont beekeepers.org if you're just starting out there's an introductory information available on
that site as well as more advanced information for established beekeepers. Chas thanks so much for joining us it's a fascinating topic.

Chas.: Thank you it's been a pleasure to be here.

Judy.: That's our program for today I'm Judy Simpson we will see you again next time on across the fence.

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