

NOT Your Grandfather's Beekeeping Course

A Master Beekeeper Program worthy of the name.

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If your grandfather kept honey bees, chances are he didn't read trade journals, attend conferences or keep up with the latest developments in honey bee research. He didn't have to. The methods he used were likely passed down to him from his forebears, and they worked perfectly well to keep his hives healthy and productive. In recent years, by massive die-offs, honey bees have reflected back to us the complications of the world we live in now. Bee health problems have prompted a flurry of activity in all things bee-related. In addition to a scramble for news stories that implies panic is the only reasonable course of action, there has been an upset in the industry with many professionals getting out of the business, and a notable resurgence of interest in beekeeping as a pastime. New beekeepers – both hobbyist and commercial – are needed and welcomed with one caveat: your grandfather's methods are not sufficient. Beekeeping must evolve to survive as a livelihood and to help honey bees survive.

Bee health is a more complex issue than the sensational news stories would have us believe. Honey bees are threatened with starvation, extreme weather, predators, along with more pests and more diseases than ever before. They and billions of their colleagues are packed together tighter than is probably healthy and transported from one side of the country to the other several times a year. They are exposed to herbicides, mono-culture food crops, pesticides and any number of man-made substances, purposefully and accidentally. In short, bees, like the rest of us, are *stressed*.

There are a plethora of proposed (right and wrong) solutions to the honey bee health issues that have been brought about by new developments in this world we inhabit, and more issues still to be addressed. As we know all too well, even experienced beekeepers can do what seems to be all the right things and still lose bees. Traditional beekeeping practices are no longer sufficient to keep bees alive, much less producing at full capacity. It calls for well-informed approaches that are up to today's

challenges. Meanwhile the media is fairly bursting with opinions, information and insidious misinformation. Wild theories, confusion, misuse of terminology, and sweeping generalizations abound in the news, on the Internet and in a multitude of beekeeping courses taught by self-proclaimed experts that have popped up since the advent of the term "CCD."

Some google-able information and some beekeeping courses are decent and serve their purpose as far as they go, though most don't reach beyond rudimentary-level. Other sources tout methods that range from incorrect to downright damaging. Sick bees don't keep to themselves; they travel out into the world and mix with healthy bees, spreading disease as they go. Thus, misinformation that leads to poor beekeeping practices can damage not only an individual backyard hive, but the bee population as a whole. Unfortunately, those new to beekeeping are usually left to their own devices to sort good information from bad. And how is a newbie to know the difference?

Faculty and Research Staff at the University of Montana (UM) sought a way to cut through the barrage of misinformation and bridge the information gap by making the latest in honey bee research widely available to hobbyist and commercial beekeepers. The result is a unique three-part online program of study, led by Jerry Bromenshenk, Scott Debnam and Phillip Welch. UM's Apprentice/ Journeyman/ Master Beekeeping program, now entering its third year, has participants from around the globe queued and eager to proceed into their next course, which will be offered this Spring. Former students from North and South America, Australia, New Zealand and Great Britain tout the program for the unparalleled opportunity it provides to study with, as one student stated, "one of the most widely renowned honey bee research teams in the United States."

Dr. Jerry Bromenshenk's 40 year research career has focused on insect behavior, ecotoxicology, population dynamics, and environmental chemistry. He has trained



Jerry Bromenshenk, Phillip Welch and Scott Debnam.

bees to locate land mines and tracked their location using laser technology. His research has had the added benefit of years of in-depth observation of bees, leading to a deep understanding of their behavior. Scott Debnam has more than 14 years' experience managing the research of honey bee colonies for the University of Montana. He has extensive expertise with honey bee behavior, ailments and pests. For the past 19 years, Phillip Welch has participated in honey bee research at Sandia National Labs, Bee Alert Technology and the University of Montana. The team has not only dedicated their lives to studying bees, they are *passionate* about them, as is evidenced in their facial expressions and body language as they discuss their subject and their approach to teaching.

With so many less costly beekeeping courses available and so much information freely available on the internet, prospective students generally ask what makes UM's Master Beekeeping Certificate program worth the investment. In a single word, the unique quality of this program is "*why*." After many years of studying bee biology and of observing – *really observing* – bees inside and outside the hive, Bromenshenk, Debnam and Welch understand and teach not only what the bees do in each season and in every stage of their lives, but why they do it. They teach not only the best practices of how to manage and treat them, but why they should be handled and treated in a particular way. The secret to success, they believe, is in the understanding of "*why*."

UM's Beekeeping Certificate Program is academic, comprehensive and based in sound scientific principles. In addition to the support of two deans, and the expertise of program faculty, a small army of technicians, instructional designers and graduate students in a variety of media arts disciplines have come together to lay out the courses using methods most conducive to learning. The content is king, and the delivery is a thing of beauty. The team has been able to replicate the organic approach to teaching, about which the instructors have been adamant. Debnam and Welch agree that "What we've got here is a course of study that can make an impact on the world of beekeeping."

Anyone with high speed internet access can take the program, regardless of geography, because it is online. While this may seem an unlikely way to study such an eyes-on, hands-on process as beekeeping, it works. Each course is comprised of carefully crafted lessons that allow students to learn using multiple intelligences. Indeed, some concepts are more easily demonstrated in this format. Thanks to the work of photographers, videographers and animators, it is possible to see things that can't be seen with the naked eye.

Participants choose to take the courses for academic credit through the University of Montana or for Continuing Education Units for a slightly reduced fee. In either case, the course requirements are the same. The instructors feel very strongly that, regardless of credit/non-credit status, students must pass each level before they be allowed to proceed to the next.

Although the courses are rigorous, they shouldn't be intimidating to participants who have at least entry-level experience handling bees. Those considering enrolling in the program should have an awareness of current

honey bee health issues that impact bee populations, and a commitment to learn what they can do in an effort to be a part of the solution. An open mind is the most important prerequisite. Other prerequisites include being prepared to work at the college level, having reliable internet access, and enough time to dedicate to the assignments. (It is recommended that students spend at least three hours per week in addition to every hour of class time.) Students need to have access to textbooks, basic beekeeping clothing and equipment. A microscope is required for the Journeyman and Master-Level courses as the instructors believe it is an indispensable diagnostic tool for any beekeeper.

Each course is only a few weeks in length. However, the program in its entirety is structured to give students a full year of practical experience in between, and so the entire program takes three years to complete. The class meets online – and it is a true "meeting," as interacting with beekeepers from various parts of the country and the world is an important part of the experience. The dynamics of the group creates a network in which students learn from each other as well as from the instructors. Course discussions are notable for their sharing of perspectives from one part of the world to another. This kind of learning literally opens a world of possibility. Typically, at the conclusion of the course, students want to keep up the connections they've made, and so the discussions continue via email and Facebook.

Bromenshenk, Debnam, and Welch guide the lessons, participate in discussions and are available to answer questions. There is a hands-on aspect to the study as well; students usually arrange to complete the practical component in an apiary near their home with a pre-approved proctor and forgo a trip to Montana.

The program begins where you would expect it to begin, with the basics of handling honey bees. It then takes students through diagnosing pests and diseases, including microscopy, pollination, reducing the risk of loss due to pesticides and honey production. It concludes with the business of beekeeping: optimizing for production at the hobbyist or commercial level. Each course builds upon knowledge gained in the previous course and the hands-on practice gained in the interim. At completion of the program, students will have earned the title of "Master Beekeeper." More importantly, they will have joined a community of informed beekeepers – a network that will serve as a resource for years to come.

Current pressures on honey bees call for approaches that are more consistent with today's challenges and a teaching method that makes up-to-date information easily accessible and widely available. The beekeeper's job is to optimize conditions for bees, giving them the best possible chance at survival. The University of Montana feels that its job in this context is to give beekeepers the best chance at success.

Knowledge is power and more knowledge is more power. As Dr. Bromenshenk has said, "No beekeeping program can guarantee your success with honey bees – our program will give you the strongest possible foundation and therefore the best chance at keeping healthy, prosperous hives."

This is not your grandfather's beekeeping course. **BC**