

Engineering Better Bees

Story By: Timothy S. Edwards



“What can we do to help?”

This was the ongoing theme from the members of the West Plains Beekeepers Association during a presentation by Dr. Charles Herr on honeybee research at Eastern Washington University Friday, January 20, 2017.

According to Herr, the research in the lab at EWU is focused on increasing the availability of genetic diversity through the freezing and fresh storage of honeybee semen, a process created by the University’s research team.

“According to population geneticists, the phenotype (in our case, actual performance) of an organism is determined by its genes and the environment,” according to EWU’s Professor of Cell Biology. “Efforts have been made for years at improving and managing the hive environment. I am sure more progress in this area is still possible. Little effort has been made at improving honeybee health through genetics. In fact, often genetics is not even interesting to queen rearers. Each hive actually has very little genetic variation since all eggs are laid by one queen.

“The semen she is inseminated with is from haploid males, with each male providing to the egg, exactly the same kind of sperm cell in regards to the genetic makeup. This is uncommon in animals and makes loss of genetic diversity even more likely. When genes are lost from populations under the conditions like those of honeybees, they could be truly beneficial genes. It is a game of chance.

“However, different beneficial genes would be lost from different regions throughout the world. Globally, it is likely that all beneficial genes still exist. Freezing semen from many regions throughout the world provides a genetic resource that could be used, if intelligently applied, to produce healthy, tough honeybees.

“Technologies already exist, that if applied, could identify specific forms of genes (alleles) capable of making disease resistance greater, over-wintering less problematic and many other desirable outcomes.”

Even though this technology exists, there is doubt that it will be used to actually benefit the bee population.

“This would require a focus and substantial manpower, making me doubt that it will happen,” Herr explained. “I have been doing my part, which is making the transfer and storage of global genetics technically possible. I can only hope that “light bulbs light up”. Federal funding for honeybee research is not available to me or to many others. It is controlled by a few insiders. This is not typical of other areas of scientific research.”

This is where assistance could be best applied. A concerted effort to get funds refocused towards research that would truly benefit the health of the global bee population is required to resolve the issues facing researchers.

“If the challenge is progress toward making substantial and meaningful contributions to honey beekeeping, which is where I think the focus should be, then it is the lack of access to adequate research funding,” Herr explained. “It is not that there is not enough money being spent, but that it has been monopolized by scientists who are more interested in again proving evolution or wish to study honeybees’ negative impact on other bee populations.

“It is fine that these studies are being conducted, but it seems to me, the more honey beekeeping needs serious research to solve problems, the more extra money goes to projects that will never serve this purpose,” he continued. “Beekeepers need to look hard at how the research funds are being spent. Not in a narrow-minded way that neglects to recognize the importance of genes, but one that knows when money is diverted to evolutionary and ecological studies, when these will not ever benefit beekeeping.”

There are smaller steps that can be taken to assist in EWU’s bee studies until a solution can be found to the funding issues. Steps that could have direct impacts on local beekeepers.

“It would be great to get a research club organized by spring to help with my studies of larvae,” Herr explained his immediate needs. “It would be great if the club then studied the effect of proline supplements on overwintering. This would be ideal for club members that do not involve themselves in the California almond industry.

“There are many other possibilities as well.”

The WPBA’s has agreed to provide some support to EWU’s bee studies.

“We have said that we will donate \$500.00 to Professor Herr’s research on honeybee genetics, specifically in assistance with collection, storage and shipment of honeybee sperm,” stated Ellen

Miller, President of WPBA. "The goal to be assisting in the development of a genetically healthier honeybee."

Besides the associations direct support, there maybe separate support coming from individual member of the WPBA.

"We have also indicated that as an association, our members who are interested in assisting with any aspect of his research, are willing to volunteer by providing time, materials, and equipment as needed," Miller Explained. "Professor Herr will be contacting us with requests for assistance and we will continue to meet with him during the year to maintain an informed and mutually beneficial relationship."

Herr plans to move forward with his studies as he can until he can get further assistance.



"I am developing new technologies," he stated. "We are working on curing intracellular fungal diseases, and we just made an interesting discovery that might substantially impact cryopreservation.

"I want to work on honey bee larva in the spring."

It is Herr's concern though, that the largest project that is most needed to truly benefit the honeybee population won't occur.

"The large project that needs to be done is one where SNPs are used to identify specific alleles (flavors of genes) that would make robust honey bees. It is simply unrealistic for me to do this research because of the way federal grants for honeybee research are controlled. Hopefully, someone will do this research. It is through this project that the true benefits of global honeybee genetics could impact beekeepers' success."

Herr's study of bees didn't start when he was first approached about working with bees.

"When I was a graduate student years ago, I was approached by another graduate student about the possibility of developing a method for freezing honey bee semen. I was in the middle of a dozen other research projects at the time, and did not pursue the topic, but made a mental note of it, he said.

"Years later, when honey bees were suffering from the *Varroa* Mite, I had begun a series of cryopreservation research projects and I thought the approach might be suitable to honey bees. I had a graduate student start work on the project in 2005.

"We had some initial success, which attracted the attention of Susan Colby. She kindly provided a substantial amount of semen for research when Brandon Hopkins was my graduate student in 2009. We were able to find one treatment in about 56 different treatments, which did provide useable results."

This wasn't the beginning of his interest in bees though.

"Prior to actually working on honey bees, I had a fascination with them. When I was a teen, I had the ABC and XYZ on honeybees book and many others," Herr explain. "It is great to now have hives and work with these fascinating organisms at my home."

Beekeeping Reminders

1. West Plains Beekeepers Association meeting. The Meeting goes from 6:00 p.m. to 8:00 p.m. at the Medical Lake Pizza Factory, 123 S. Broad St., Medical Lake. This month's guest speaker will be Jim Miller. He will be discussing the essential oils.
2. Beehive registration deadline for the state is April 1.
3. Bee Packages are available for preorder. Expecting delivery in the second or third weekend in April.
4. Remember to check the feed in your hives on a day when it is warm (50ish) with no moisture and no wind. Add solid feed if necessary. There will usually be a day in late January or February.
5. West Plains Beekeeper Association Membership Renewal.

2017 Annual Membership Dues

Last reminder that 2017 membership dues for the West Plains Beekeepers Association are due. We need your support as we make plans for this coming year.

Dues go to developing new classes, increasing our presence at events in the community and participating in further partnerships with other organizations. Our goal is to spread the message of the importance of honeybees and beekeeping in our area. New this year we are looking forward to launching a children's presence on our website.

Benefits of membership include discounts at Miller's Homestead and BeeManiacs; free enrollment for special classes that we offer during the year; and eligibility for listing on our SwarmCatchers List. Remember our annual \$20 membership covers not just you but your family as well, so get the whole family involved in our activities.

It's easy to use the PayPal option on our website to pay your dues. You can also pay at our monthly meeting on February 17th or you can send a check payable to **WPBA to P.O. Box 134, Medical Lake, WA 99022.**

For those of you who have taken our Beginning Beekeeping class in November 2016, you are already a member for 2017.

We look forward to your continued support for 2017.

Changing Attitudes

Supporting AHCC Sustainability Program

Story By: Timothy S. Edwards

In March 2016, James “Jim” G. Miller was approached by the Airway Heights Correction Center about participating in the Center’s Sustainability Program.

This started out with four hives being placed at the AHCC and has progressed into 19 inmates passing beginning beekeeping classes sanctioned by the West Plains Beekeeper Association to become certified apprentice beekeepers.

“The program is trying to take someone that gets stuck in the correction center and change their attitude,” said Miller, a certified master beekeeper. “This is a way they can come out as productive members of the community.”

According to Miller, inmates that want to participate in the program must meet certain requirements. They have to pass two behavioral type programs and they must be free of any negative marks for six months.

“We started with 20 inmates,” he explained. “The class completed with 19. We lost another recently for an infraction.”

Miller finished a day-long meeting with the AHCC staff and apprentices inmates. Below is a list of topics that were discussed:

Staff Meeting -

1. Beekeeping Apprentice Class – The first class is scheduled for February 9 from 12:50 to 3:50 p.m. This will be weekly for six weeks.
2. Management would like to increase the hive count and new locations are to be developed by April 1.
3. AHCC gave permission to start a West Plains Beekeepers Association Satellite club.
4. AHCC gave permission to start working with the apprentice inmates on a journeyman booklet, which will be sanctioned by the WPBA.
5. AHCC gave permission for the Apprentice Inmates to start raising queens. These can’t be sold to the general public. Only given to other state organizations such as Eastern Washington University.
6. AHCC gave permission for a beekeeping newsletter to be developed by the inmates and given to the WPBA on a monthly basis.
7. AHCC expressed a desire to work with Dr. Herr on research with Honey Bees.
8. AHCC expressed a desire for Dr. Herr to make a presentation to the AHCC Bee Club.

Apprentice Inmate Meeting –

1. Officers were elected for the following positions:
 - a. President: In charge of running the meeting.
 - b. Vice President: In charge of training and monthly programs.
 - c. Secretary: Responsible for recording meetings and tracking paperwork.

- d. Newsletter Editor: In charge of developing a monthly newsletter, which will be given to WPBA for publication.
2. AHCC beekeeping group will meet once a month for three hours, time to be determined. Normal business, an hour long presentation of Honey Bees, and an hour for general discussion will be included in each meeting.
 3. Jim Miller will attend the monthly meetings and will be available for support.
 4. At the February Meeting, the Journeyman booklet assignments will be discussed.
 5. At the February Meeting, The Queen rearing program will be developed.
 6. The club activities will provide community service points to be used towards the Journeyman Certificate.

“Partnering with the Airway Heights Correctional Center as they develop a successful beekeeping program is consistent with the purposes of the West Plains Beekeepers Association,” according to Ellen Miller, President of WPBA. “Our goals are to educate the public concerning healthy beekeeping practices, to train beekeepers in responsible practices of raising healthy honeybee colonies, to collaborate with other organizations as appropriate, and to assist in obtaining Washington State beekeeping certification. The AHCC program includes all of these goals.

“This is a good example of how we can work together with other organizations to promote awareness of the importance of beekeeping and the best practices for successful beekeeping in our area.”

Bee Sales Notice

We have heard from many local beekeepers about their desire to obtain Caucasian honeybees. Caucasians had been readily available years ago in our area but that has not been the case recently.

Several of our beekeepers managed to obtain a few last year from different sources, but this year we have a local supplier who is accepting orders for Caucasians.

BeeManiacs in the Deer Park area has them listed on their website <http://beemaniacs.com/2017-old-sol-nucs-and-queens-available-at-beemaniacs/>.

Caucasians are supposed to be more winter hardy than the other available honeybees. If you have been hearing about them and have wanted to give them a try, take a look at what BeeManiacs has to say about them.

They will also be selling Carniolan and Italian bees.

Other Bee Sales include:

Miller Homestead is selling Carniolan and Italian Bees.
<http://www.millershomestead.com/NCPurchaseBees.html>

Tate's Honey Farm is selling Carniolan and Italian Bees
<http://www.tateshoneyfarm.com/package-bees-queens/>



west plains
beekeepers
association

Beginning Beekeeping Class
March 4, 11, 18 (Saturdays)
10am-2pm • Pizza Factory
123 S. Broad St, Medical Lake
\$35 per family. Includes one
instruction booklet and one WA State
Apprentice Beekeeper exam.
\$20 for each additional
WA State Apprentice exam.
includes

Hands On Beekeeping Class
April 2017

For more information or to register:
www.wpbeekeepers.org
or 801-923-3797
westplainsbeekeepers@gmail.com

West Plains Beekeepers Fleece Jackets and T-Shirts



West Plains Beekeepers Association Fleece jackets and T-Shirts are now available for a very low cost. The fleece jackets are an iron gray with the club logo embroidered on it. T-shirts are white and have the logo on them as well.

All money the club brings in goes to developing new classes, increasing our presence at events in the community and participating in further partnerships with other organizations.

Remember the club goal is to spread the message of the importance of honeybees and beekeeping in our area. This year we are looking forward to launching a children's presence on our website.

Fleece Jackets:	\$ 35 each
T-shirts:	\$ 10 each

You can pay and pick up your jacket or T-shirt at our next monthly meeting on February 17th or contact an active club member to bring it to you.

We look forward to your continued support for 2017.

Bee Keeper Spotlight: Joe Geiger

Story By: Timothy S. Edwards



Joe Geiger was the immediate response to the question of who the spotlight should be on this month.

"I'm recommending Joe Geiger as the featured beekeeper for our February newsletter," said Ellen Miller, President of the West Plains Beekeepers Association. "He is an experienced beekeeper and has figured out how to do things 'His Way' to make them work for him."

Joe's response, "Ok, but it is all B.S."

Ultimately, it is far from his humorous comment. His philosophy is "You are the beekeeper; you do it the way you want."

"You use the basic principles," he explained, "but you are the beekeeper. You try what you want. Sometimes it works and sometimes it does not. It is fun to see if something you want to do will work or not."

"I have killed as many bees and anyone else," he continued. "What works for one person doesn't work for someone else. You will be told how something should be done but it doesn't always work."

His sense of humor, easy manner and quick smile led throughout our conversation about his experiences as a beekeeper. This was especially true when asked about his favorite part of keeping bees for going on 39 years.

"The Honey!" the Journeyman Beekeeper laughed. "Anything with sugar, Marilyn (his wife) replaces with honey. She uses the honey from the cappings to make caramels."

Joe started keeping bees in 1978 but said that his interest in bees started as a child.

"Our neighbor kept bees when I was young. I would throw rocks at the neighbor's hives to see the bees fly. It was fun to watch them."

All his hives are handmade. He bought a deep and a western box when he started out and used those as a pattern for making his own hives. It is cheaper and, according to Joe, therapeutic.

"There is something therapeutic about assembling the hives and frames," the 78-year-old explained. "There is something about taking a hammer and driving those little grommets into the frame that is relaxing and satisfying."

Joe and Marilyn currently keep four or five hives at a time on their nine acres which butts up against a survival school that has

four or five hundred acres. A lot of the reason they keep the bees is for the pollination factor.

"Thirty to fifty percent of what you eat is pollinated by pollinators like bees," Joe stated. "On our property there are a lot of plants that need pollinated."

When asked about which of the plants on the property the bees do best with, he said it depends on the bees.

"The bees decide what they need. It really isn't something you can plan for," he explained. "We have apple trees on the property and this is the first year we couldn't pick them all. They were just what the bees needed this time."

The products that come from the pollination are put to good use in the Geiger household. Besides cooking with honey, they also sell some, give some as gifts and produce beeswax candles.

"We tend to use more honey than we sell," Joe stated. "We give some as gifts to our kids. My oldest son sometimes makes honey mead from the honey we give him."

Bees will continue to be in Joe's foreseeable future.

"We like the honey and people depend on us for it."



From the Left: Kevin Oldenburg, Joe Geiger and Marilyn Geiger

Pilot Project Notice



The Washington State Weed Board is looking for willing landowners to participate in a multi season pilot project. This project will work towards replacing pollinator-friendly noxious weeds with native pollinator-friendly plants that share the same bloom succession. The weed infestation should be known to be beneficial to European honeybees and other pollinators.

The landowner must have an infestation between 0.1 – 1 acre, and be willing to work with guidance from the County Noxious Weed Board to achieve control as soon as Spring 2017. The land Owner will then be supplied the native seeds for planting.

The Sites will be selected by the State Weed Board's Pollinator Forage Committee.

If you are interested and would like more information, contact Emily Walston at emilyannwalston@gmail.com.

A Tasteful Calendar

Story By: Timothy S. Edwards

The West Plains Beekeepers Association has proposed a Honey Recipe Challenge to other beekeeping associations in the state with the support of the Washington State Beekeepers Association.

The intent of the challenge is to provide a collaborative activity encouraging beekeeping groups in the state to work together on a project that could be fun and profitable.

The proposal was sent to the state association in the hopes that WASBA would serve as the promoting organization.

"We are putting this challenge out to all the beekeeping organizations in the State," according to Margo Buckles, an apprentice beekeeper with the WPBA. "We hope that the WASBA will participate, and we can put together something fun for beekeepers in Washington."

The rules of the challenge are as follows:

1. Between now and September 15, 2017, each group should hold a meeting or event dedicated to tasting treats and or food made with honey. The members submitting the food should provide recipe cards for the items they brought.
2. The members of each group should taste test their entries and pick one or two recipes to submit as the top "People's Choice". They should take a picture of each of the items selected.
3. Other recipes can be included as well. If enough individual recipes are received, it may be possible to compile a cookbook. If more than the "People's Choice" recipes are selected for submission, include photos and information for each.
4. Send the chosen recipes and photos, including the name of the person and the association responsible for the submission, to westplainsbeekeepers@gmail.com no later than September 30, 2017.
5. West Plains Beekeepers will compile the recipes into a calendar or other format depending on the number of entries. West Plains Beekeepers will make it available to the other beekeeping associations in the State wishing to use the compilation of recipes as a fundraiser for their organization.

The challenge came about through the WPBA's members perchance for periodically sharing their creations with the other members of the association during their monthly meetings.

"People bring stuff periodically to meetings," Buckles explained. "We thought it would be a fun way to make money for all the clubs. We thought it would be nice to have something cooperative."

Buckles also gave a little guidance to help those working on recipes.

"When substituting honey, you want to replace the sugar with half as much honey," she stated. "It is also recommended to reduce the heat and to add an additional quarter teaspoon more of baking soda."

Free February Bee Webinar

The British Columbia Ministry of Agriculture is offering a free introductory WEBINAR course for beekeepers. Participants can be located anywhere.

The purpose of offering the course free of charge is to address the serious problem of many novice beekeepers failing in the first few years. The "virtual classroom" has no enrollment limit so anyone interested in taking the course can do so.

Some details:

- 4 sessions on Saturday mornings from 0900-1130 (Pacific Time). No practicum or field day.
- Unlimited class size. Reasonably up-to-date computer and access to high-speed internet recommended.
- No materials provided but prior to each session, participants receive an email with suggested reading and reference materials.
- Planned starting date: February 11, 2017
- Course is FREE.

Visit <http://www.gov.bc.ca/apiculture> for further details.

Webinar Format:

This course is intended for beginner beekeepers. The course is a simplified and shorter version of a Classroom course. It covers a full range of topics related to beekeeping management, disease diagnosis and controls.

The webinar series involves four sessions on consecutive Saturday mornings. Prior to each session, registrants will receive an email with suggested reading materials and references. There is no lab session or field day offered in this course.

If you wish to be notified when course details and registration become available, please send an email to Paul van Westendorp to have your name and email address added to the course notification list. (It is recommended for participants to have high-speed internet access).

* Email: paul.vanwestendorp@gov.bc.ca

Recipes from the Apiary

Carrot Cake

Shared by: Marilyn Geiger



Ingredients:

1 cup	Whole Wheat Flour
2 cups	Unbleached White Flour
2 ½ teaspoons	Baking Soda
2 ½ teaspoons	Cinnamon
1 ¼ cups	Chopped Pecans
1 ½ cups	Honey
1 cup	Canola Oil
4	Eggs
3 cups	Grated Carrots

Directions:

1. Combine flour, soda and cinnamon in a bowl.
2. Mix oil and Honey.
3. Add eggs, one at a time.
4. Add the flour mixture and mix well.
5. Add the carrots and pecans.
6. Pour into two or three layer pans, which have been greased and floured. (I also put a piece of parchment paper in the bottom of the pan).
7. Bake 30 minutes or until done.
8. Frost when cool (see frosting recipe below).

Frosting:

12 Ounces	Cream Cheese
1/3 cup	Honey
1 teaspoon	Vanilla

Cream until Smooth.

Chocolate Chip Cookies

Shared by: Margo Buckles

Ingredients:

1 pound	Butter
¾ cup	Honey
1 ½ cups	Brown Sugar
4 teaspoons	Vanilla
4 ½ cups	Flour
2 ¼ teaspoons	Baking Soda
1 cup	Canola Oil
4	Eggs
2 12-ounce bags	Semi-Sweet Chocolate Chips

Directions:

1. Preheat oven to 350 degrees.
2. Cream together the Butter, Honey and Brown Sugar.
3. Beat in the eggs and vanilla.
4. Add and mix in the Flour and Baking Soda.
5. Add in the Chocolate Chips
6. Drop by the teaspoon on ungreased cookie sheets and bake for 7 to 10 minutes or until golden brown.



February 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
5				1 <i>Hive Registration</i> <i>Deadline: April 1</i>	2 <i>Bee Package Order for April Delivery</i>	3	4
6	5	6	7	8 <i>Hive Registration</i> <i>Deadline: April 1</i>	9 <i>Bee Package Order for April Delivery</i>	10	11
7	12	13	14	15 <i>Hive Registration</i> <i>Deadline: April 1</i>	16 <i>Bee Package Order for April Delivery</i>	17 <i>Association Meeting</i> <i>Jim Miller</i> <i>Essential Oiles</i> <i>123 S. Broad St.,</i> <i>Medical Lake</i> <i>6:00 p.m.-8:00 p.m.</i>	18
8	19	20 Presidents Day	21	22 <i>Hive Registration</i> <i>Deadline: April 1</i>	23 <i>Bee Package Order for April Delivery</i>	24	25 <i>Otis Orchards Library Program</i> <i>Introduction to</i> <i>Beginning Beekeeping</i> <i>22324 E. Wellesley</i> <i>Otis Orchard, WA</i> <i>10:30 - 11:30 a.m.</i>
9	26	27	28				

April 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
13							1 <i>Deadline for Hive Registration</i>
14	2	3	4	5	6	7	8
15	9	10	11	12	13	14	15
16	16	17	18	19	20	21 <i>Association Meeting</i> <small>123 S. Broad St., Medical Lake 6:00 p.m.-8:00 p.m.</small>	22
17	23	24	25	26	27	28	29
18	30						

May 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
18		1	2	3	4	5	6
19	7	8	9	10	11	12	13
20	14	15	16	17	18	19 <i>Association Meeting</i> <small>123 S. Broad St., Medical Lake 6:00 p.m.-8:00 p.m.</small>	20
21	21	22	23	24	25	26	27
22	28	29 Memorial Day	30	31			

June 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
22					1	2	3
23	4	5	6	7	8	9	10
24	11	12	13	14	15	16 <i>Association Meeting</i> <small>123 S. Broad St., Medical Lake 6:00 p.m.-8:00 p.m.</small>	17
25	18	19	20	21	22	23	24
26	25	26	27	28	29	30	

July 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
26							1
27	2	3	4 Independence Day	5	6	7	8
28	9	10	11	12	13	14	15
29	16	17	18	19	20	21 Association Meeting <i>123 S. Broad St., Medical Lake 6:00 p.m.-8:00 p.m.</i>	22
30	23	24	25	26	27	28	29
31	30	31					

September 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
35						1	2
36	3	4 Labor Day	5	6	7	8	9
37	10	11	12	13	14	15 <i>Association Meeting</i> <i>123 S. Broad St.,</i> <i>Medical Lake</i> <i>6:00 p.m.-8:00 p.m.</i>	16
38	17	18	19	20	21	22	23
39	24	25	26	27	28	29	30

November 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
44				1	2	3	4
45	5	6	7	8	9	10	11 Veterans' Day
46	12	13	14	15	16	17 <i>Association Meeting</i> <small>123 S. Broad St., Medical Lake 6:00 p.m.-8:00 p.m.</small>	18
47	19	20	21	22	23 Thanksgiving	24	25
48	26	27	28	29	30		

December 2017

Nº	Sun	Mon	Tue	Wed	Thu	Fri	Sat
48						1	2
49	3	4	5	6	7	8	9
50	10	11	12	13	14	15 <i>Association Meeting</i> <i>123 S. Broad St., Medical Lake</i> <i>6:00 p.m.-8:00 p.m.</i>	16
51	17	18	19	20	21	22	23
52	24	25 Christmas Day	26	27	28	29	30
1	31						
