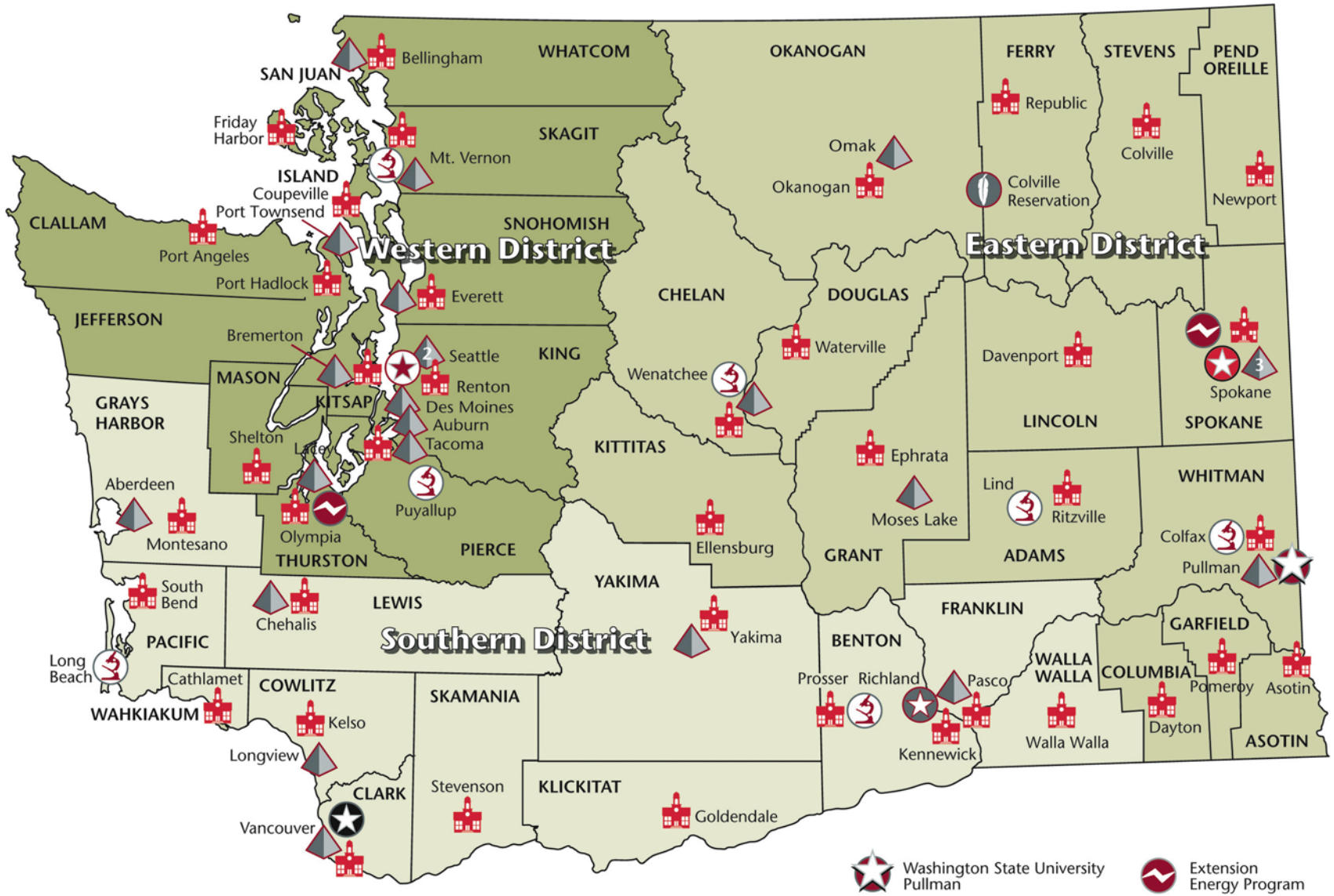
WSU Entomology 2019

Washington State University



WASHINGTON STATE UNIVERSITY EXTENSION

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Revised 2/22/10

Honey Bee & Pollinator Research, Extension & Education at WSU

- Public-private partnerships
- Grant funding – federal, state, local
- Stakeholder support
- Donor support

FEATURED

WSU's new bee research facility in Othello officially opens

By Joe Utter Mar 9, 2020 1

1 of 2

Latest News

- Quincy swimming pool stayin summer
- 4 teens arrested in string of v Moses Lake; 2 teens connect
- One new COVID-19 case cor in Grant County

Washington State
Beekeepers Association
Keeping the Bee in Business
March 6, 2020
$ 30,000.00
WSU Department of Entomology
DOLLARS
Thirty-Thousand and no/100 Dollars
For honey bee & pollinator
facility infrastructure
Members of the WSBA
memo

HONEY BEE + POLLINATOR
RESEARCH, EXTENSION & EDUCATION FACILITY
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WOOD SHOP

Washington State University

A highlight of CAHNRS Honey Bee & Pollinator Research Programs

- Honey Bee & Pollinator Health
  - Better honey bees through breeding
  - Varroa mite management
  - Habitat management
  - Health & Nutrition
- Biological Diversity Surveys in urban, agricultural, residential landscapes
- Ecology & IPM of pollinators both managed and native,wild

Pollinator research at WSU

- Establishment of a honey bee germplasm repository for breeding
- Queen bee breeding for traits of apicultural importance
- Reduction of overwintering losses in honey bees
- The sustainable use of non-Apis pollinators
- Solutions for honey bee health and immunity
- Preeminent outreach to beekeepers and stakeholders
- Ongoing research on native bee management for specialty crops
- Nutrition and habitat ecology in fragmented urban and agricultural landscapes
- Impacts of pesticides – acute and long-term on pollinator health & behavior
- Management of honey bee nutrition
- Management of parasitic Varroa mites and p\other pests and pathogens

WSU Scientists across CAHNRS

- **Steve Sheppard**, WSU Pullman – 100% effort on honey bee breeding, health, genetics, pesticides
- **Brandon Hopkins**, WSU Pullman – 100% effort on honey bee breeding, health, nutrition, pesticides
- **Dave Crowder**, WSU Pullman – 5% effort on non-honey bee pollinators in urban landscapes; biodiversity and community ecology
- **Elizabeth Murray**, WSU Pullman – Diversity, Native Bees, Honey Bees & Viruses
- **Doug Walsh**, WSU IAREC, Prosser – up to 10% effort on alkali bee, alfalfa leaf-cutter bee, non-honey bee pollinators in agricultural landscapes particularly alfalfa grown for seed; risk management and integrated pest management decisions for pollinator safety
- **David James**, WSU IAREC, Prosser – up to 10% effort on non-honey been pollinators in grapes grown for wine and conservation biology of habitat for pollinators
- **Vince Jones**, WSU TFREC, Wenatchee – up to 5% effort on modeling for the Decision Aid System for sustainable pest management decisions to protect pollinator health and maximize pollination services
- **Tim Lawrence**, WSU Island County Extension - up to 5% effort on honey bee breeding and health
- **Lisa DeVetter**, WSU Mt Vernon - up to 5% effort on pollination services in small fruits
- **Bev Gerdeman**, WSU Mt Vernon – up to 5% effort on honey bees and pesticides

STEVE
sheppard
WASHINGTON STATE
ALUMNI

A new, old bee

WSU entomologists "back breed" with imported semen to recreate a subspecies from Central Asia.

Ross Courtney // Mar 21, 2017

Using a chicken coop as a makeshift laboratory
In the Tien Shan Mountains of Central Asia in 2015.
Photo by Steve Sheppard.

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Brandon Hopkins explains to Jason Bragg of the West Virginia Queen Producers Cooperative how the lab makes its own glass vials by heating, stretching, breaking and fire polishing long glass capillary tubes. As far as Hopkins knows, nobody produces such vials commercially, so he and his team make their own.

(TJ Mullinax/Good Fruit Grower)

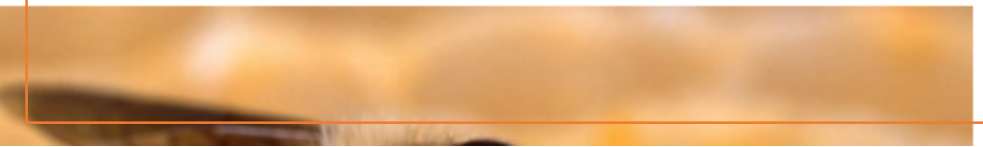
Bee Culture

The Magazine of American Beekeeping

BEEKEEPING TODAY PODCAST
Presented by Bee Culture
www.beekeepingtodaypodcast.com

MAY 10, 2018

CATCH THE BUZZ – COLD STORAGE FOR HONEY BEE COLONIES BREAKS THE BROOD CYCLE AND MAKES VARROA TREATMENTS MORE EFFECTIVE. HOW COOL!!



Beeswax Rendering
A.H. MEYER & SONS INC.

Understanding the life cycle of the Varroa mite

1

The queen is the largest in the beehive. She lays up to 2,000 eggs per day in the brood cells.

2

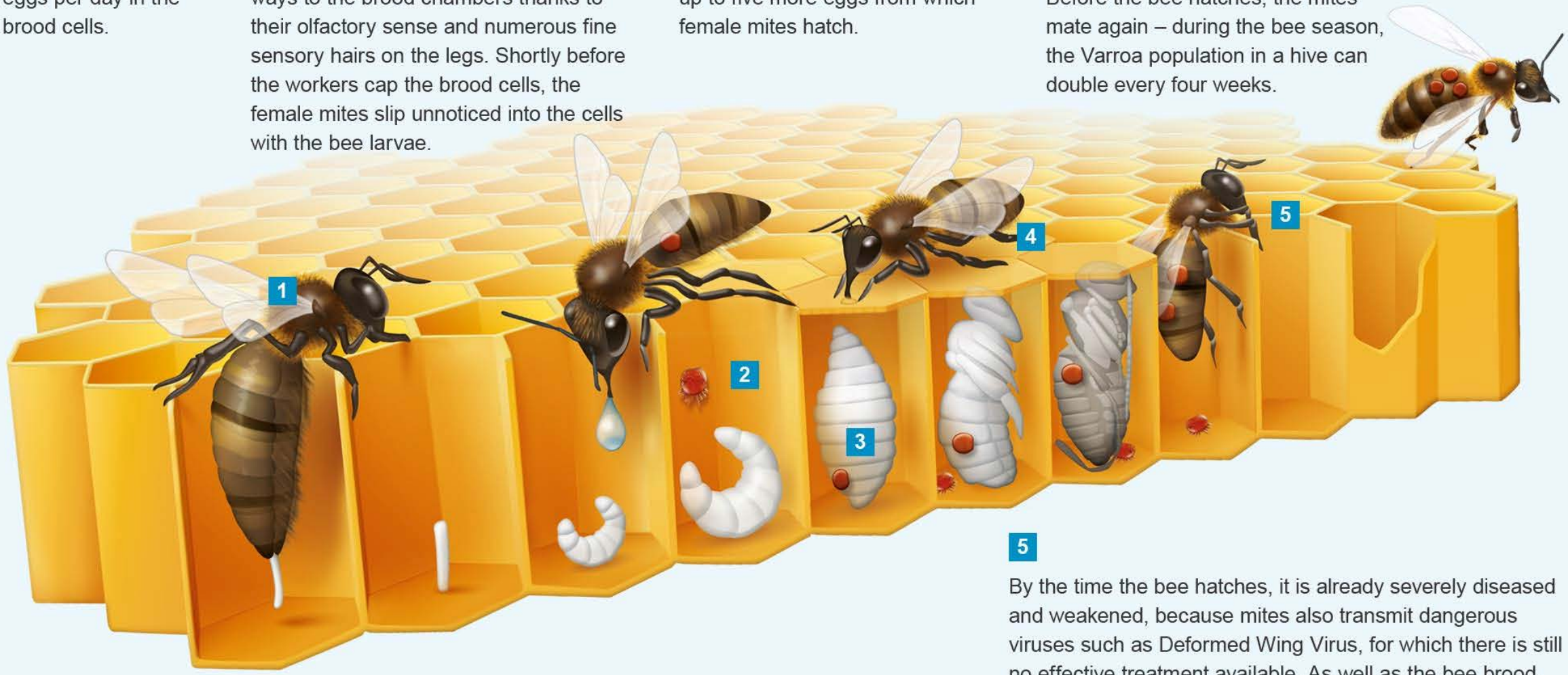
Worker bees often carry Varroa mites with them into the hive. Despite being deaf and blind, these mites can find their ways to the brood chambers thanks to their olfactory sense and numerous fine sensory hairs on the legs. Shortly before the workers cap the brood cells, the female mites slip unnoticed into the cells with the bee larvae.

3

A few days later, the mites lay the first eggs. The first to hatch is always a male. It is followed by up to five more eggs from which female mites hatch.

4

To feed its offspring, the mother mite pierces a feeding hole in the bee pupa which has developed in the meantime. Before the bee hatches, the mites mate again – during the bee season, the Varroa population in a hive can double every four weeks.



5

By the time the bee hatches, it is already severely diseased and weakened, because mites also transmit dangerous viruses such as Deformed Wing Virus, for which there is still no effective treatment available. As well as the bee brood, Varroa can also infest adult bees.

Research focuses on varroa mite control

Carol Ryan Dumas Mar 26, 2018

1 of 3

Research focuses on varroa mite control

Carol Ryan Dumas Mar 26, 2018

2 of 3

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October 4, 2018 | Fungi Perfecti

Groundbreaking Research Gives Hope to Bees

Researchers look to fungi to help keep honeybees healthy

New research explores two very different fungi that could knock out the varroa mite and boost bees' immunity.

Kate Prengaman // Mar 21, 2019

Honeybee research helping blueberry farmers in Skagit County

By AARON WEINBERG @Aaron_SVH Oct 25, 2017 0

1 of 2

Native pollinators in the path of highway

Originally published August 6, 2012 at 9:46 pm

1 of 16 | *With their Vehicular Bee Sweeper, the B Team, as researchers from Washington State University dubbed themselves, are researching the behavior of alkali bees.* More

Photo by Zach Mazur,
WSU Magazine

Photo by Zach Mazur, WSU Magazine

Photo by Zach Mazur,
WSU Magazine

Native Bees And Alfalfa Seed Farmers, A NW Love Story

by **Aaron Scott** Follow OPB June 28, 2018 8:45 a.m. | Updated: June 28, 2018 11:15 a.m.

Native Bees Help NW Alfalfa Farmers

00:00 04:25

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Walla Walla County might just be the only place on Earth where you have to brake for bees.

"You can see the signs here," says Mike Ingham, as he drives by a 20-mile-per-hour speed limit sign with a smaller sign below stating "Alkali Bee

Related Content

Photo by Zach Mazur, WSU Magazine

Walla Walla Valley Fields dotted with white alfalfa leafcutter bee huts.

Photo by Zach Mazur, WSU Magazine

https://www.opb.org/news/article/nw-native-bees-alfalfa-farmers/

The alkali bee (Nomia melanderi) is slightly smaller than a honey bee, with opalescent stripes that shimmer between yellow, green, red and blue.

Courtesy of Doug Walsh/WSU

Photo by Zach Mazur, WSU Magazine

Plan Bee

by Rebecca Phillips '76, '81 DVM

For thousands of years, humans have relied on the European honey bee to pollinate agricultural crops. Now, wild North American bees are getting a second look.

Photo by Zach Mazur, WSU Magazine

WSU Extension

http://pubs.cahnrs.wsu.edu/publications/pubs/em110e/

NW Pollinators Citizen Science Guide

Protected: A Citizen Science Guide to Wild and Floral Visitors in Western Washington

VIVA FARMS

WSU BEE PROGRAM
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