

# Frequently Asked Questions

## THE PROBLEM

### **What is American Foulbrood?**

American Foulbrood (AFB) is highly contagious and devastating disease that destroys the developing bee larvae. The disease-causing bacteria (*Paenibacillus larvae*) can be present in subclinical levels in hives which can erupt at any time. Infective spores may last in the environment for several decades.

## THE VACCINE

### **How does the vaccine work?**

The vaccine works via a biological phenomenon known as Transgenerational Immune Priming (TGIP). The vaccine, containing a killed pathogen, is administered orally to the maternal insect—the queen bee. Attendants caged with the queen are fed queen candy containing the vaccine. Work carried out in Dalan's laboratories has indicated that the attendants digest the vaccine and produce royal jelly containing vaccine particles. The royal jelly is fed to the queen, and as she ingests it, pieces of the vaccine are transported via her fat body to her ovaries where it is deposited in the eggs. The developing larvae are exposed to the vaccine and start to build up immunity before they hatch.

### **How is the vaccine administered?**

One vial of the vaccine is thoroughly mixed with 300g of queen candy. 6g of candy is placed in a queen cage containing 6-10 attendants and a mated queen. The cage is kept in a cool dark space with proper water exposure for 7 days while the attendants feed the queen. On day 8, the queen can be released into a hive or be placed in a queen bank.



The vaccine is mixed into the queen candy

# Frequently Asked Questions (continued)

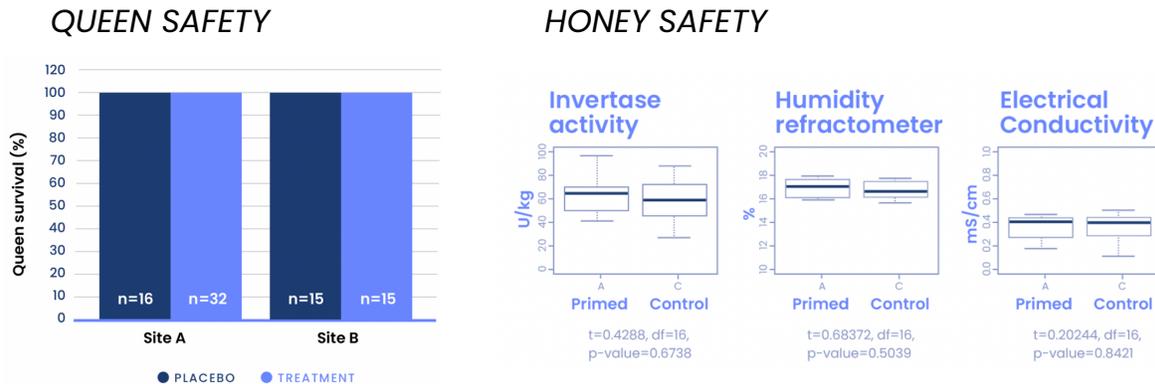
## How do I use the vaccine for my operation?

Everyone's operation is different. In order to ensure effective use of the vaccine in your operation, please contact Dalan's Field Technician, Amy Floyd, at 844-483-2526 or by email at [afloyd@dalananimalhealth.com](mailto:afloyd@dalananimalhealth.com).

## TECHNICAL QUESTIONS

### Is it safe to vaccinate my queen? Will my honey be altered?

The USDA center for Veterinary Biologics (CVB) has approved the vaccine for use and has reviewed Dalan's data indicating that the vaccine is safe. After over 4 years of study using hundreds of doses of vaccine, immune priming has never indicated a negative impact on queen fitness or honey composition (see data below).



### Is the vaccine approved for organic farming and organic honey production?

Yes, the vaccine is suitable for use in organic agriculture. It is non-GMO and does not contain any chemicals or harmful preservatives.

### Do daughter queens of vaccinated queens carry immunity and pass it off to their offspring?

No, daughter queens also need to be vaccinated for their offspring to be protected. In other words, it is only effective for the generation that received the vaccine.

### Does the vaccine kill the AFB bacterium?

The vaccine does not kill the bacterium. Our AFB vaccine utilizes a dead bacterium to promote an immune response within the honeybee. Vaccination of the queen bee has been shown to limit disease by passing on immunity and/or stimulating immunity in newly hatched larvae (Transgenerational immune priming or TGIP).

# Frequently Asked Questions (continued)

## **Can the vaccine be placed directly into the hive?**

No. This has not been assessed. We recommend vaccinating a fresh queen for 8 days outside of the hive, making sure her attendants have access only to the vaccinated candy. Removing a queen from the hive, vaccinating her for 8 days, and returning her to the hive is not recommended.

## ORDERING

### **How can I purchase?**

The product is bottled at 50 doses/vial. Therefore, the minimum order size is for 50 queens, or 50 hives.

#### *< 50 hives*

Currently, you can order vaccinated queens from Honey Bee Genetics. Visit our website [dalan.com](http://dalan.com) to purchase your new vaccinated queens today!

#### *> 50 hives*

Visit our website [dalan.com](http://dalan.com) to submit a quote request or call 844-483-2526. One of our team members will get in touch with you shortly.