

TREATING AFB AND RAISING QUEEN CELLS SIMULTANEOUSLY

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Caspian Apiaries

Typical cells raised in AFB colonies



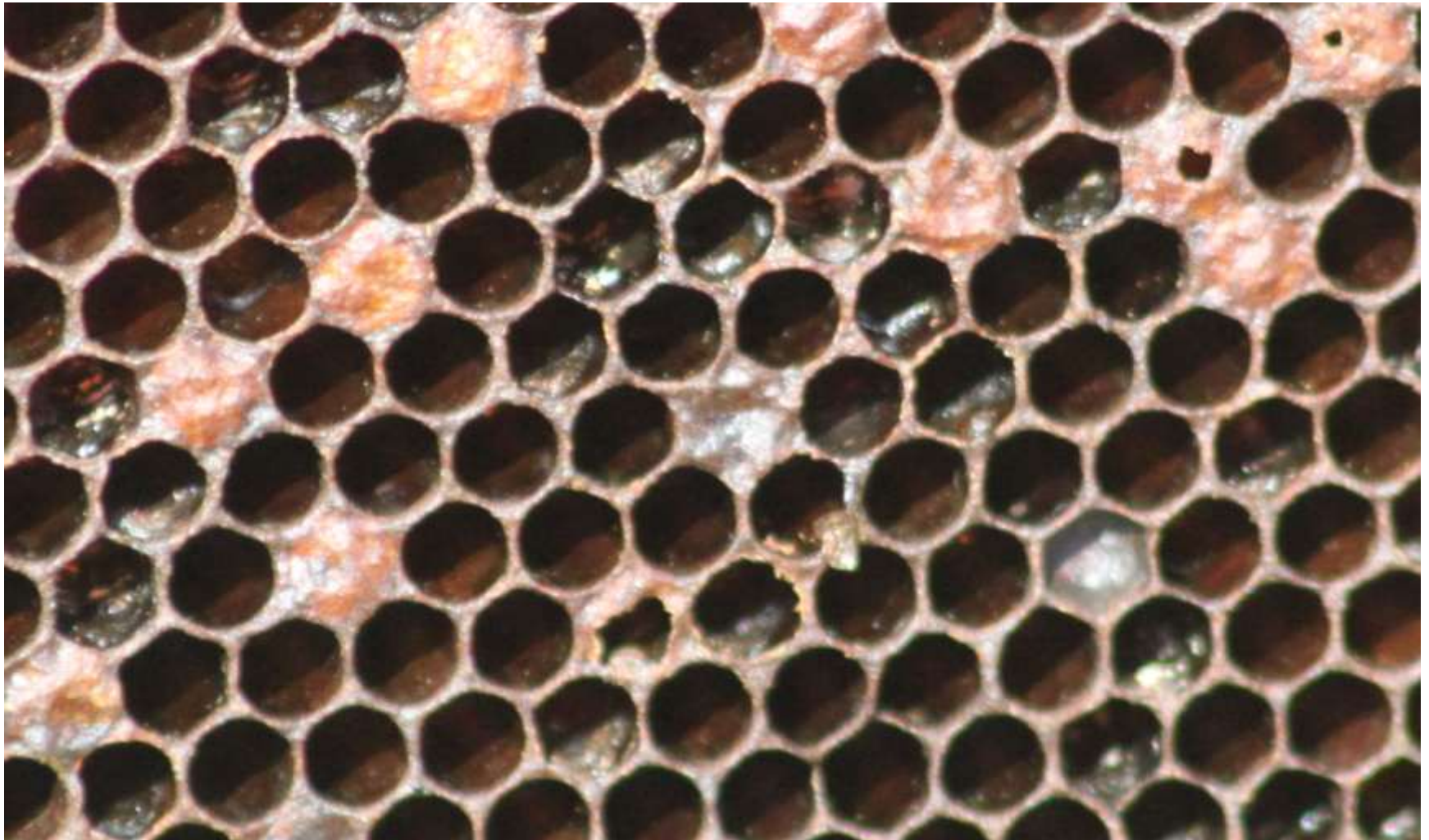
Topics covered

- Why AFB colonies make better queen cell raisers than healthy colonies
- Treating AFB colonies with Caspian Solution
- Identifying the potential for higher worker and royal jelly production
- Identifying the availability of higher fat deposits in AFB colonies in comparison with healthy colonies.

American foulbrood

- Endemic and epidemic disease caused by *Paenibacillus*, a gram-positive bacterium.
- Infects larvae that are 1 - 2 days old, and takes only 48 hours for spores to germinate in aerobic conditions.
- High spore levels present a threat to larvae more than 3 - 4 days old

American foulbrood



Caspian Solution

- Approved in Iran since 1986 and Canada since 2000
- All natural, no risk of residue
- Stimulates bees to consume more pollen due to a combination of pheromones, royal jelly and a bacteriophage blended within the Solution.

Caspian Solution



Bees highly stimulated to consume pollen cake after being fed Caspian Solution

Caspian Solution in AFB Treatment

- Gives perfect conditions to germinate spores
- Lowers necessary antibiotic dose to just 4% and syrup volume to just 10%
- Not necessary to burn or irradiate equipment

AFB Treatment and Queen Production

- Treatment takes 20 days giving opportunity to simultaneously use AFB colonies for queen production, queen cell mating or jelly production
- Bees in AFB colonies have higher body protein potential for producing royal jelly
- Lower demand on pollen stores due to less bees hatching

Materials

- AFB colonies
- Antibiotics such as erythromycin, streptomycin, ampicillin, O.T.C., or amoxicillin
- Caspian Solution
 - To make 10L:
 - 30g dry Caspian Solution powder
 - 8L mixed syrup (2 sugar to 1 water)
 - 60g pollen
 - 60g honey
 - 1.2L warm water

Method

- A successful treatment program aims to create highly nourished and healthy colonies at the same time as creating solid brood
- Method of queen production is the same as any other method of queen production, except with the feeding of Caspian Solution containing 4% antibiotics
- The AFB treatment is similar to any other AFB treatment on active stage spores with the exception of scale removal



Method

- The key is germinating the entire spore load and having antibiotic present to kill the germinated spores
- Must temporarily halt brood cycle

Results

- Queen production up to 30% more efficient in AFB colonies due to higher body protein levels and fat deposits
- Royal jelly production 30-70% higher (genetics dependent) in AFB colonies
- Queen cells capped in 3 – 4.5 days