



Large scale beekeeping

Bees in organic and nordic canadian conditions.

Anicet Desrochers – Queen Breeder / Producer

Introduction

Api-Culture Hautes-Laurentides Inc.

1,000 hives :

- production of certified organic honey: Average honey production / hive : **130 lbs (60kg)**

- nucs production for sale : 400 nucs/ year

1500 mating nucs :

- production : 7,000 queens / year



Introduction

Geographic Situation:

- 250 km away from others commercial beekeepers
- Isolated breeding area.
- Isolated land for certified organic honey.



Survivors/Resistant bees in Québec, Canada

- Selection program main criteria: natural selection
 - Our work consist of selecting the survival bees that have been expose to extremely high pest and desease pressure.

survivor = best genetic combination





Breeding program: gene pool

SMR/VHS (2007)

- Dr. Harbo and Dr. Harris proved the effectiveness of the VSH (varroa sensitive hygiene)
 - The behavior where adult bees remove pupae that have reproductive mites.

Minnesota Hygienic Italian (2008)

- Dr. Marla Spivak. Queens of the Minnesota Hygienic line demonstrate good resistance to American foulbrood and chalkbrood, and some resistance to Varroa. They are gentle and excellent honey producers

Breeding program: selection

2 stage selection: pre-selection and final test

Pre-selection:

1. Winter ability/ spring cluster size, spring weight size, spring build up;
2. Swarming tendency;
3. Honey production;
4. Gentleness;
5. Quietness on the combs
6. Brood viability.

Final test:

1. Hygienic behavior test;
2. No treatment.



Apiculture Cycles in North Québec, Canada

- Spring Buildup :
 - Mid-March to mid-May
- Honeyflow :
 - June to August
- Fall and overwintering :
 - September to March



Nordic organic beekeeping Québec Canada



Spring management



Spring management



Honeyflow season



Fall and overwintering

Preparation of the hives for over-wintering



Fall and overwintering

Integrated Pest Management :

- Resistant bees

Bee showing resistance/tolerance to diseases



Fall and overwintering

Integrated Pest Management :

2. Formic Acid : Flash

- Rapid volatilization of formic acid at high concentration.
- The dosage should be used between 10-24 degree Celcius in a rate of 2ml/frames of bees with a maximum of 20ml even for double brood chambers.

3. Oxalic acid: Dripping

4. Working method causing minimum stress: manipulations, smoke, travelling,etc.



Fall and overwintering

Feeding with sugar syrup.
20-35 kg / colony (in barrels)



Fall and overwintering

Method of over-wintering : inside vs. outside



VS



Fall and overwintering

Sites for over-wintering



An open-air site (good for summer honey production)



Protected site (good for winter)



Fall and overwintering

The wrapping of colonies : Material used

- Thermafoil (plastic bubble air paper)
- Polystyrene (styro-foam)



Conclusion

Gracias !



For more information: Visit www.api-culture.com