



INTEGRATED PEST MANAGEMENT (IPM)

**INCORPORATING SEVERAL OPTIONS
TO CONTROL A PEST POPULATION**



INDUSTRY PROBLEMS:

VARROA MITE - AGRESSIVE PEST

FLUVALINATE AND COUMAPHOS RESISTANCE

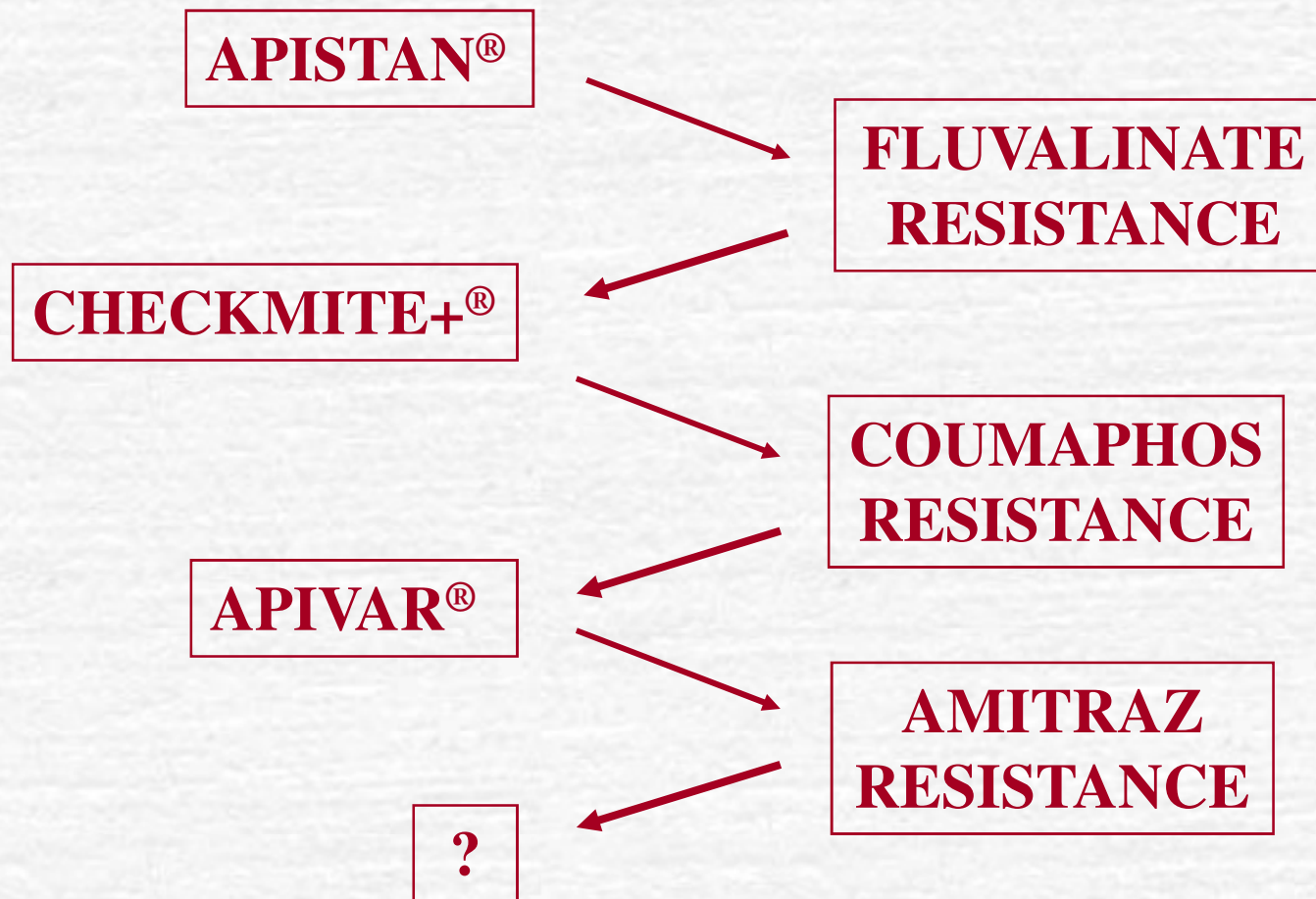
AVAILABILITY OF PESTICIDES - PMRA REGISTRATION

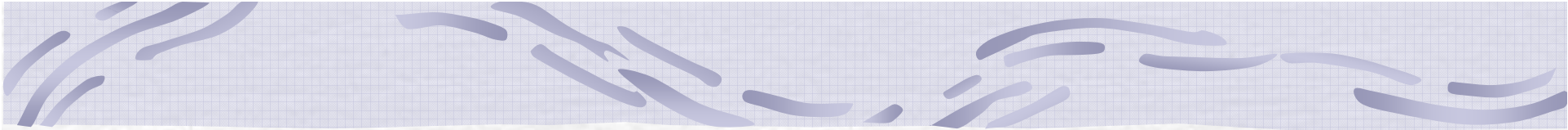
rAFB - PROBLEM IN WESTERN CANADA

SMALL HIVE BEETLE - FROM ACROSS U.S. BORDER

FOOD SAFETY - !!!!!

TREND TOWARDS CHEMICAL DEPENDENCY





**NEED A LONG TERM, SUSTAINABLE
BEE PROGRAM**

CANNOT BE DEPENDENT ON A SINGLE SOLUTION

PRO-ACTIVE IN OUR APPROACHES

INTEGRATED SOLUTIONS





COMPONENTS OF IPM

AWARENESS

MONITORING

DETERMINING ECONOMIC THRESHOLD

IMPLEMENTING THE SOLUTIONS



COMPONENTS OF IPM

AWARENESS

ABILITY TO IDENTIFY PESTS AND DISEASES

KNOWLEDGE OF PROBLEMS

eg. AREAS WITH RESISTANCE

STAY CURRENT

- LOCAL BEE MEETINGS

- REGISTRATION & UPDATES

COMPONENTS OF IPM

MONITORING

CRITICAL COMPONENT OF BEEKEEPING!!!

NEED TO KNOW LEVELS OF PARASITES

NEED TO KNOW IF TREATMENT WAS EFFECTIVE

EARLY DETECTION OF RESISTANCE

COMPONENTS OF IPM

DETERMINING ECONOMIC THRESHOLD (ET)

BELOW ET - DOES NOT REQUIRE TREATMENT

- SAVE \$
- LESS SELECTION PRESSURE
- DECREASED CHANCE OF RESIDUES



COMPONENTS OF IPM

IMPLEMENTING THE SOLUTIONS

**A SINGLE SOLUTION IS UNRELIABLE
eg. RESISTANCE**





TYPES OF TREATMENTS

HARD CHEMICALS

SOFT CHEMICALS

CULTURAL MANAGEMENT

GENETIC STOCK



TYPES OF TREATMENTS

HARD CHEMICALS

CheckMite+[®]

Apistan[®]

Apivar[®]

**GOAL: DECREASE THE NUMBER OF APPLICATIONS AND
INCREASE THE AMOUNT OF TIME BETWEEN APPLICATIONS**

TYPES OF TREATMENTS

SOFT CHEMICALS

65% Formic Acid

Oxalic Acid

Thymovar[®]



TYPES OF TREATMENTS

CULTURAL MANAGEMENT

DRONE BROOD REMOVAL

SCREEN BOTTOM BOARDS





TYPES OF TREATMENTS

GENETIC STOCK

TRACHEAL MITE RESISTANT STOCK

HYGIENIC STOCK

