

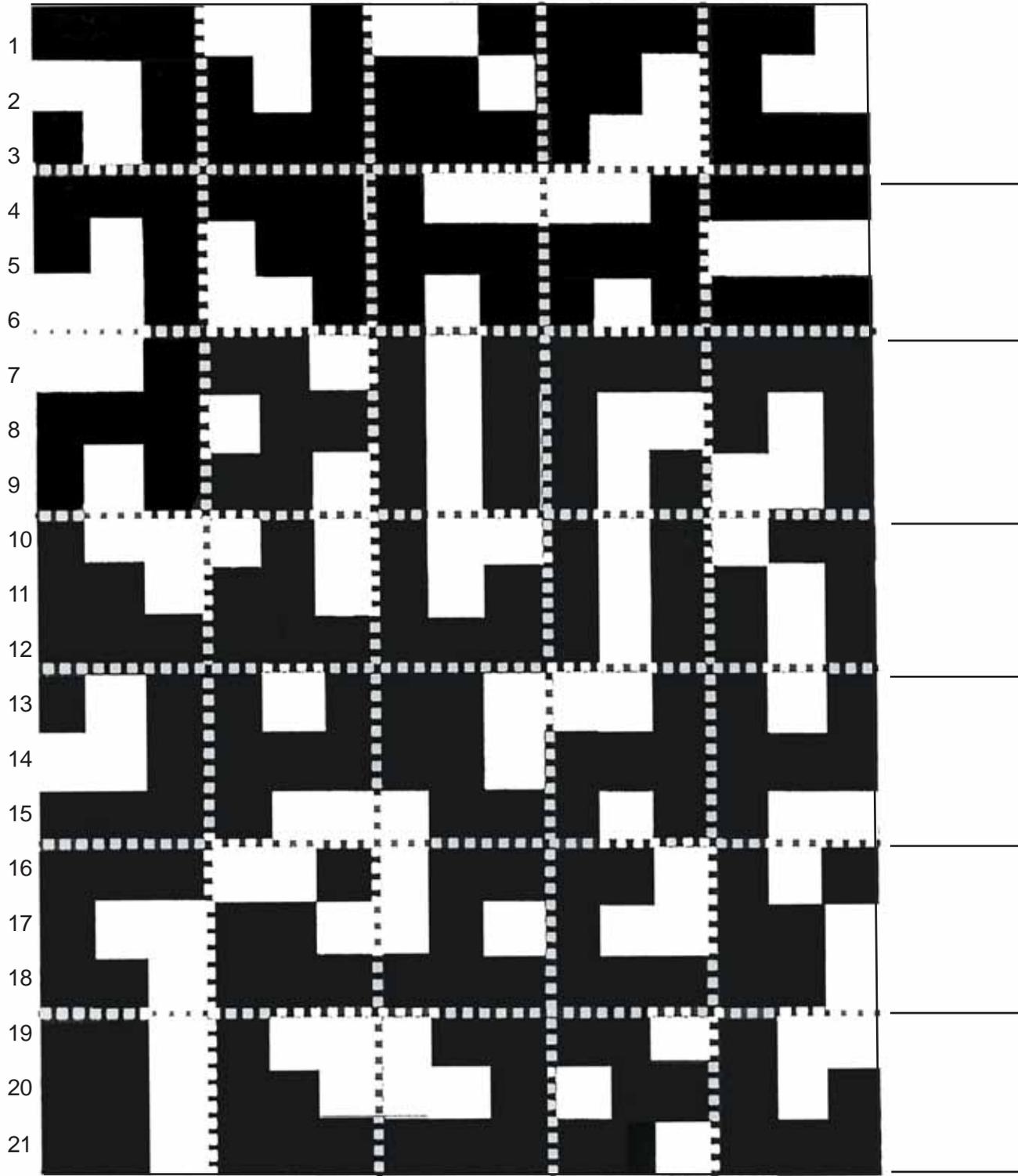
# Data Sheet (3)

Designed by D. Sammataro & N. Ostiguy © 2002



V-Board 2002, DESIGN 3

Hive #/Yard \_\_\_\_\_ DATE in/out: \_\_\_\_\_ Name: \_\_\_\_\_



Count mites in the white areas only and write the number in the corresponding space on the data sheet. If a mite falls on a border (halfway on the black or white edge), count only those mites that are on the top and right edge of the box you are counting.

Now add up the rows and write that number in the right hand column. Sum the rows and enter that in the *Mite Count* line. Now multiply the mite count by 3 to get an estimate of the *Mite Total* on the board. If you divide this total by the number of days the board was installed, you get *mites per day*.

**Mite Count:** \_\_\_\_\_  
(Sum of all rows) \_\_\_\_\_

Multiply by 3  
**(Mite Total)** \_\_\_\_\_

Divide by number of days

**MITES PER DAY** \_\_\_\_\_

The PSU/IPM Varroa mite detection board comes either unglued or precoated with Tangletrap. For unglued ones, user needs to precoat with something like tangletrap or petroleum jelly before inserting into hive. Materials such as cooking oil spray (e.g. PAM) should not be used to coat the boards, since it is not sticky enough to prevent mites from crawling off the board. Also, do not use spray glue as this may be toxic to bees.

The sticky board is slipped into the entrance of the colony, onto the bottom board. To prevent the bees from either being stuck to the sticky material or cleaning it and the mites off, a hardware cloth (8 mesh) sheet is cut to the dimensions of the inside bottom board, stapled to lathe strips and placed on top of the sticky board. The lathe strips lift the hardware mesh off the sticky board high enough to keep the bees from coming in contact with it. Sticky boards are inserted into all of the colonies in any one apiary and left for 3 days to obtain a natural mite drop. Mites are small, about the size of the head of a pin; you will need some type of magnifying device for best results.

### **USING THE PSU/IPM VARROA BOARD**

- 1). Before inserting the boards into your colonies, use a grease pencil or permanent marker to write on the board the date you insert the board, the apiary location, and the hive number. After the boards are removed, write on the boards the date when the boards were removed. Enter this information in your hive diary or other record-keeping book, along with as much information as you can (hive strength, air temperature, and colony condition such as swarming). You can't remember everything about each colony and a diary or some sort of written record will give you a chance to compare varroa levels over time.
- 2). If pre-coated boards are being used, separate the 2 boards. Mineral spirits will remove any sticky material should it get on your hands. Be careful when separating the boards. If you pull them apart too quickly, it may pull off the design. If the board is not precoated, cover it with a very thin layer of petroleum jelly (Vaseline) using either your fingers or a plastic spatula.
- 3). Place one sticky board on the bottom of each hive, sticky side up. Then place over the board the screen mesh to prevent the bees from sticking to the board.
- 4). Leave the sticky board in the colony, without any other treatment, for 3 days.
- 5). Remove the board from the colony and either count the number of mites on the board immediately, or cover the sticky side with plastic wrap and store in a cool place until you can count. Once counted, if you used the Vaseline, and the board is in good shape, scrap off the board with a plastic spatula (disposing of the debris appropriately) and recoat the board.

### **COUNTING THE STICKY BOARDS**

- 1). Count all the mites within the WHITE area only. Use a magnifier to help distinguish mites from other debris.
- 2). If mites are straddling a black and white area, count only those mites on the UPPER and RIGHT EDGE OF THE WHITE AREA.
- 3). To determine if what you see is a varroa mite or just debris, press down on the "dot" with your finger. If you feel something hard and it does not squish, it is a varroa mite. Count only mites that have legs-immature and dried carapaces should not be counted.
- 4). Write down the total number of mites in each white area in the corresponding space on the data sheet.
- 5). Add up all the white areas in each row and write down the total number of mites on the line on the right side of the data sheets.
- 6). Now total all the numbers in the right-hand column and multiply that number by three to get the estimate of the number of mites on the board.
- 7). To figure mite drop per day, divide the total mite number by the number of days the board was in hive. For example, if the board was in the colony for 4 days, divide the total mites by 4. This is the MITE DROP PER DAY.
- 8). If you are interested in knowing if the mite drop per day exceeds the threshold level for mites AND the sticky board was in the hive for 3 days, you need only to count mites on the board until you exceed the threshold level. For example, if you are using a threshold number of 60 mites per day, you can stop counting once you reach 60 if that board has been in for 3 days or less.

### **MONITORING YOUR COLONIES**

If the number of mites per day in a colony is less than the threshold number, there is no need to treat at that time. It is advisable to sample your colonies once a month starting in the spring when your bees have begun foraging. If the varroa numbers increase quickly in a month's time, you should consider sampling every 2 weeks.

At this time, there is no universal threshold number. Determining a treatment threshold will depend on your tolerance for colony losses, and your willingness to use a miticide. For example, if you have a LOW tolerance for colony loss (and are willing to use a miticide) we suggest a threshold of 20 mites per day. If you have a HIGH tolerance for colony loss (and are reluctant to use a miticide), use 100 mites per day as your threshold.

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Great Lakes IPM, Inc.  
10220 Church Rd NE  
Vestaburg MI 48891

989-268-5693  
989-268-5911  
FAX: 989-268-5311

www.greatlakesipm.com  
E-mail: glipm@greatlakesipm.com