

Using IPM in the Field



Sweet Corn Insect Management Recordkeeping Book



by Ruth Hazzard, Amanda Brown and Pam Westgate
University of Massachusetts Extension
Vegetable Program



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Recordkeeping Book for Sweet Corn IPM

Introduction

This record keeping book is designed to accompany the *Using IPM in the Field Sweet Corn Insect Management Field Scouting Guide* and be used in the field to record your trap captures and scouting information. This booklet should have room for all of your scouting records from one full season, even if you have several fields and many plantings of sweet corn.

Why keep these records?

You almost certainly will not remember all of the details of trap counts and scouting results from the season! Using the record book, you can look back over the season and know when, where and how much pressure from ECB, CEW and FAW occurred over the course of three months. You can then use this information to compare times of year and differences between years. You will have a record of how and why you made the decision to spray or not to spray, which will help you fine tune your use of IPM methods. If you participate in a program that requires documentation of your use of IPM, these records will be invaluable. You can record additional information on the crop conditions, weather, etc. Combined with your pesticide application records and planting records, these tables tell the story of each sweet corn season.

How to use this book

Moth Trap Captures Form

Record moth counts each time you empty a pheromone trap for ECB, CEW or FAW. Note date and number of nights since your last count. Calculate average moths per night for the period.

Field Scouting Form

There are 25 scouting forms. Use one form for each field or block that you scout for ECB or FAW. Write down the counts as you go through the field and use the form to decide whether a spray is needed (see page three for more details). On the forms there is also space to write trap counts that have been collected from the field. Record if you have moved the trap to a new location, where that new location is and if you have changed the lure. (Remember to flag the trap location so that you can find it again!) Write down any other notes you think may be important in the future.

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Quick reference guide

Sweet corn action thresholds

At the following crop growth stages, an insecticide application is warranted IF:

Whorl stage (based on field scouting)

More than 15% of plants are infested with fall armyworm.

Pre-tassel to first silk stage (based on field scouting)

More than 15% of plants are infested with fall armyworm and/or European corn borer (combined count).

Silk stage (based on moth captures in pheromone traps)

Trap captures of European corn borer (sum of two traps) exceed 12 moths per week (spray at weekly intervals).

OR

Trap captures of corn earworm moths exceed 0.2 per night or 1.4 per week. Use the table below to determine the recommended spray interval (average moths per trap).

When corn is less than five days to harvest, further sprays are not needed.

Corn earworm thresholds

Moths/Night	Moths/Week	Spray Interval
0 - 0.2	0 - 1.4	No spray
0.2 - 0.5	1.4 - 3.5	6 days
0.5 - 1	3.5 - 7	5 days
1 - 13	7 - 91	4 days
Over 13	Over 91	3 days

Note: spray intervals can be lengthened one day if daily maximum temperatures are below 85° F over a two to three day period.

How to use the Field Scouting Form

For monitoring insect damage in whorl, pre-tassel and tassel stage sweet corn in the field, use the sequential sampling plan on the field scouting form to decide when the action threshold (15%) for an insecticide application has been reached.

If the infestation is very high or very low, an accurate decision can be made more quickly, based on fewer samples, than if the infestation is very close to the action threshold. The Field Scouting Form tells you exactly what counts are needed to decide “yes, spray” or “no spray needed” after each set of five samples. This is called ‘sequential sampling’ This saves time but still gives you a valid, reliable decision. A minimum of five locations (25 plants) must be sampled before a decision can be made. These should cover at least half the field. A maximum of 105 plants is needed to make a decision.

Walk through the block or field in a U or V shaped pattern. At randomly spaced locations in this pattern, sample five consecutive plants. Resist the temptation to sample only damaged plants! Thresholds are based on random sampling. One way to select your sampling spot at random is to decide how many paces you will walk before stopping to sample. It also helps to reach for a plant without looking.

If you are sampling pre-tassel corn, pull the whole tassel free from the plant. This makes it easier to inspect for feeding damage and caterpillars and makes scouting faster. You can be sure there will be plenty of pollen and those plants will produce ears.

Record the number of infested plants or those with fresh feeding damage at each location on the sampling sheet and move to another location. Keep a running total. After 25 samples, if the running total is greater than (>) the number in the “Treat” column, an insecticide application is warranted. If the running total is less than (<) the “No Treat” column, an insecticide application is not warranted. Continue sampling until a decision can be made.

This sequential sampling plan is adapted from: Hoffmann, M. P., J. P. Nyrop, J. J. Kirkwyland, D. M. Riggs, D. O. Gilrein and D. D. Moyer. 1996. A sequential sampling plan for use in scheduling control of lepidopterous pests of fresh market sweet corn. J. Econ. Entomol. 89: 386-395.

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