

I d e n t i f y i n g

caterpillar

in Alfalfa

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I N T R O D U C T I O N



Caterpillars (the larvae or immature stages of moths and butterflies) are among the more important pests of field crops. Proper identification is necessary for good management of these insects. This factsheet is designed to help you identify the common caterpillars collected on alfalfa.

The identifying characters used are found on full-grown or nearly full-grown caterpillars and may not occur on newly hatched or young caterpillars. Also, to make the factsheet easier to use, some of the less common soil-inhabiting cutworms are omitted. For their identification, you should refer to other publications (Rings and Musick 1976; Capinera 1986). Loopers can be identified to species using Eichlin and Cunningham (1969).

Caterpillars can be separated from the immatures or larvae of other groups such as beetles by their prolegs (with hooks) on abdominal segments 3 to 6 and 10, but the prolegs may be absent on abdominal segments 3 and 4 (see Fig. 1). The only larvae closely resembling them are those of some sawflies, which usually have prolegs on all abdominal segments, but no hooks are present on the underside of the prolegs.

To carry out the sequence of steps in identification, begin at the first illustrations for the crop from which the caterpillar was collected and decide which alternative fits the specimen best. You need to magnify some characteristics 10-20X with a hand lens or other means. Each choice is illustrated by one or more drawings of the characteristics described. Definitions of terms used are given to help you use the descriptions, and the labeled drawing of a caterpillar in Figure 1 will help you become familiar with a specimen.

When you reach a point where you identify a caterpillar, go to the photograph for that species and its description. If the picture and description fit the caterpillar you are looking at, the identification is probably correct. If the picture and description do not fit the caterpillar, you may have misidentified the specimen or it may be a species not included in this factsheet. The characteristics used in this factsheet apply to both live and preserved caterpillars, but body color characteristics given in the description do not apply to alcohol-preserved specimens.

PRESERVATION OF SPECIMENS

You can preserve specimens collected in the field for future identification in two ways. The best way is to put live caterpillars into boiling water for 3 minutes. Then let them cool and put them into 70% ethyl alcohol or rubbing alcohol. Another less desirable method is to put live caterpillars directly into 70% ethyl alcohol or rubbing alcohol. This results in discoloration and makes identification more difficult.

SUMMARY

This factsheet should allow you to identify caterpillars collected from alfalfa. If you are unable to do so or think you have a species not included in the factsheet, ask your local or state research and extension personnel for assistance.

REFERENCES

- Capinera, J.L. 1986. Field key for identification of caterpillars found on field and vegetable crops in Colorado. Bull. 535A, Coop. Ext. Serv., Colorado State Univ., Fort Collins, 13 pp.
- Eichlin, T.D. and H.B. Cunningham. 1969. Characters for identification of some common pluriine caterpillars of the southeastern United States. Ann. Ent. Soc. Amer. 62: 507-510.
- Rings, R.W. and G.J. Musick. 1976. A pictorial field key to the armyworms and cutworms attacking corn. Res. Circ. 221, Ohio Agr. Res. and Dev. Center, Wooster, 36 pp.

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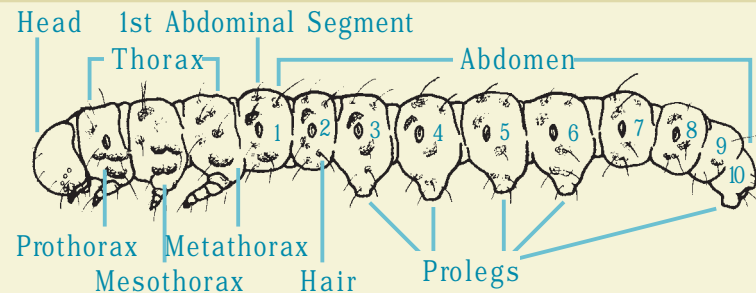


Fig. 1. Side view of caterpillar showing structures used in factsheet.

DEFINITIONS

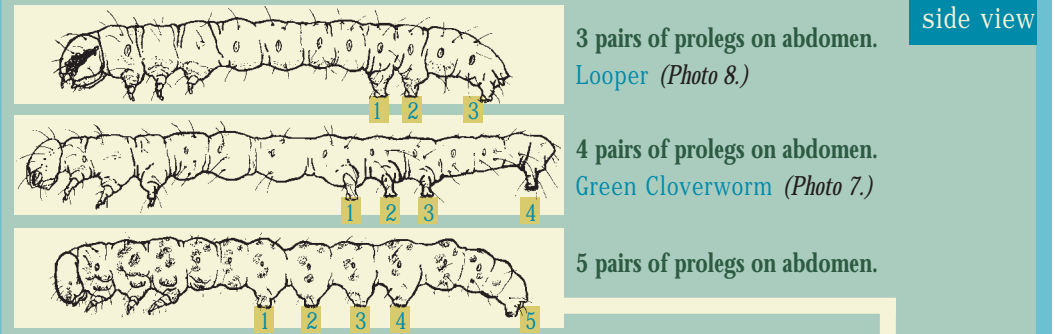
Abdomen—Portion of the insect behind the true leg-bearing segments. Usually 9 or 10 abdominal segments are apparent on caterpillars.

Breathing pore—Structure through which caterpillar breathes. Located on prothorax and segments 1-8 of abdomen.

Larva—Immature growing form quite different in appearance than adults of the same species.

Mesothorax—Second segment behind the head. It has a pair of true legs.

Metathorax—Third segment behind the head. It has a pair of true legs.

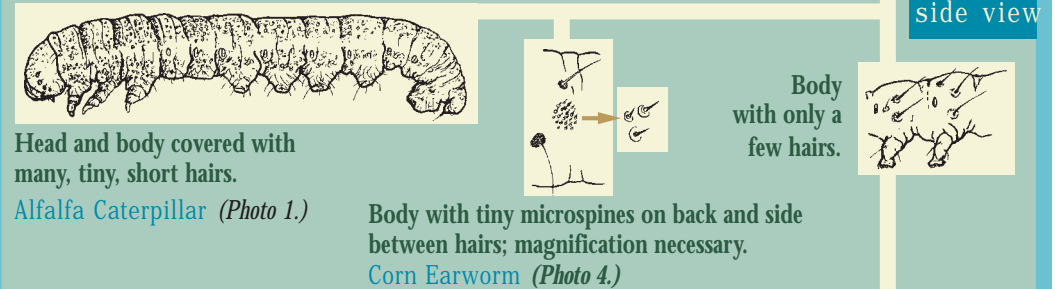


3 pairs of prolegs on abdomen.
Looper (Photo 8.)

side view

4 pairs of prolegs on abdomen.
Green Cloverworm (Photo 7.)

5 pairs of prolegs on abdomen.



Head and body covered with many, tiny, short hairs.

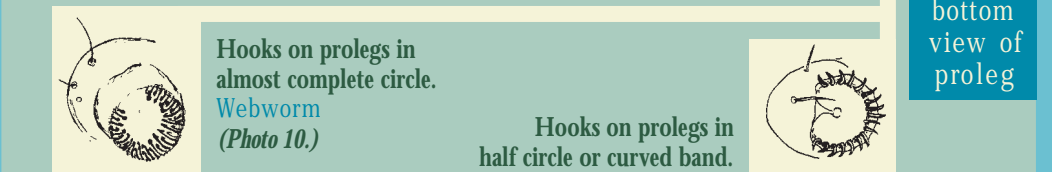
Alfalfa Caterpillar (Photo 1.)

Body with only a few hairs.

Body with tiny microspines on back and side between hairs; magnification necessary.

Corn Earworm (Photo 4.)

side view

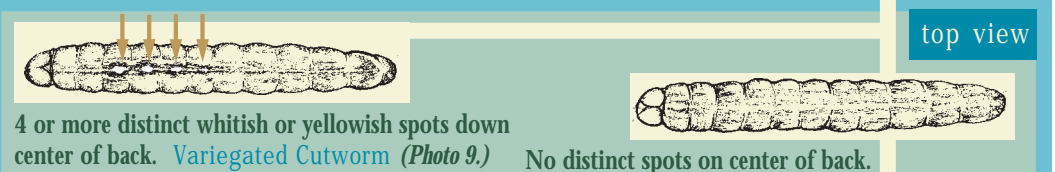


Hooks on prolegs in almost complete circle.

Webworm (Photo 10.)

Hooks on prolegs in half circle or curved band.

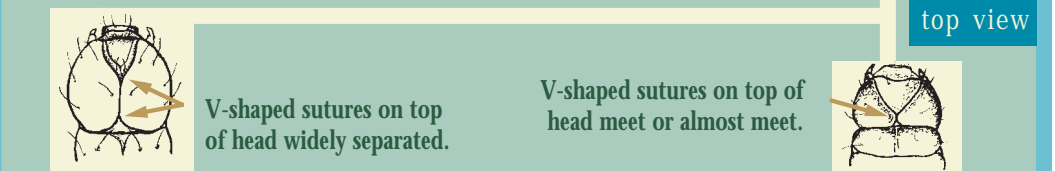
bottom view of proleg



4 or more distinct whitish or yellowish spots down center of back. Variegated Cutworm (Photo 9.)

No distinct spots on center of back.

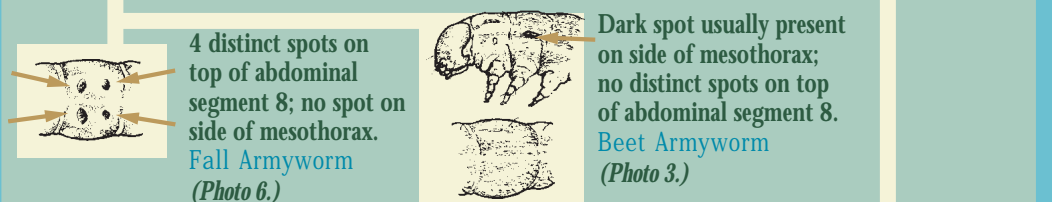
top view



V-shaped sutures on top of head widely separated.

V-shaped sutures on top of head meet or almost meet.

top view



4 distinct spots on top of abdominal segment 8; no spot on side of mesothorax.

Fall Armyworm (Photo 6.)

Dark spot usually present on side of mesothorax; no distinct spots on top of abdominal segment 8.

Beet Armyworm (Photo 3.)

Microspines—Numerous tiny spines or thorns on the skins of some larvae. Visible ONLY with magnification, best at 20X or more.

Proleg—A fleshy leg-like projection found on the underside of some abdominal segments of caterpillars.

Prothorax—The first body segment behind the head. It bears the first pair of true legs and a breathing pore on each side.

Reticulation—Pattern of narrow lines looking like threads of a net.

Segment—A portion of an insect separated from adjacent, similar parts by an indentation. The head usually appears as one segment, the next three segments make up the thorax, and the last several segments constitute the abdomen.

Suture—A dividing line or crease separating parts of an insect's surface.

Thorax—The parts of an insect just behind its head and consisting of three leg-bearing segments.

DESCRIPTIONS OF COMMON CATERPILLARS ON ALFALFA

Alfalfa caterpillar—Body green with a narrow white stripe on each side and numerous, tiny, dark spots, each with a hair. Head light brown. Mature length 1¹/₄ inches.

Army cutworm—Body gray to brown usually with a distinguishable, broad, brownish band running the length of the back. Head distinctly freckled. Mature length 1¹/₂ inches.

Beet armyworm—Body usually green with a distinct spot on the side of the mesothorax; with or without light stripes; dark or black color variations occurring along with green, particularly in spring or fall, and masking spot on mesothorax. Head brown. Mature length 1¹/₂ inches.

Corn earworm—Body usually with stripes; colors highly variable, with tints ranging from reddish-brown to yellow to green; dark tint in stripes due to presence of tiny, dense, dark microspines or thornlike projections of the skin; presence of microspines separates the corn earworm from other caterpillars. Head yellowish without spots. Mature length 1¹/₂ inches.

Dingy cutworm—Body grayish with broad, faint, lighter, brownish band along back; faint inverted V-shaped pattern on top of each segment when viewed from rear without magnification. Head brown with dark markings and some reticulation. Mature length 1¹/₄ inches.

Fall armyworm—Body colors usually shades of brown, but variations occur ranging from greens to nearly black; body with 4 distinct spots on top of the 8th abdominal segment. Head with distinct reticulation. Mature length 1¹/₂ inches.

Green cloverworm—Body yellowish-green when small but later darker green with narrow white lines running along the length; 4 pairs of prolegs. Mature length 1¹/₂ inches.

Looper—Body usually greenish, sometimes with light stripes; 3 pairs of prolegs. Mature length 1¹/₄ inches.

Variegated cutworm—Body grayish-brown with yellowish to white spots down center of back. Head brown. Mature length 1¹/₂ inches.

Webworm—Body green to yellowish green, with or without noticeable stripes; 3 dark spots on the side of each segment. Head light colored. Mature length 1 inch.



Top of head with freckles.
Army Cutworm (Photo 2.)



Top of head with reticulation.
Dingy Cutworm (Photo 5.)

top view



1. Alfalfa Caterpillar
Colias eurytheme (Boisduval)



2. Army Cutworm
Euxoa auxiliaris (Grote)



3. Beet Armyworm
Spodoptera exigua (Hubner)



4. Corn Earworm
Heliothis zea (Boddie)



5. Dingy Cutworm
Feltia ducens (Walker)



6. Fall Armyworm
Spodoptera frugiperda (J.E. Smith)



7. Green Cloverworm
Plathypena scabra (Fabricus)



8. Looper
Several species



9. Variegated Cutworm
Peridroma saucia (Hubner)



10. Webworm
Several species



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