# 2022 UA Ag Production Seminar

**DATE: April 6, 2022**

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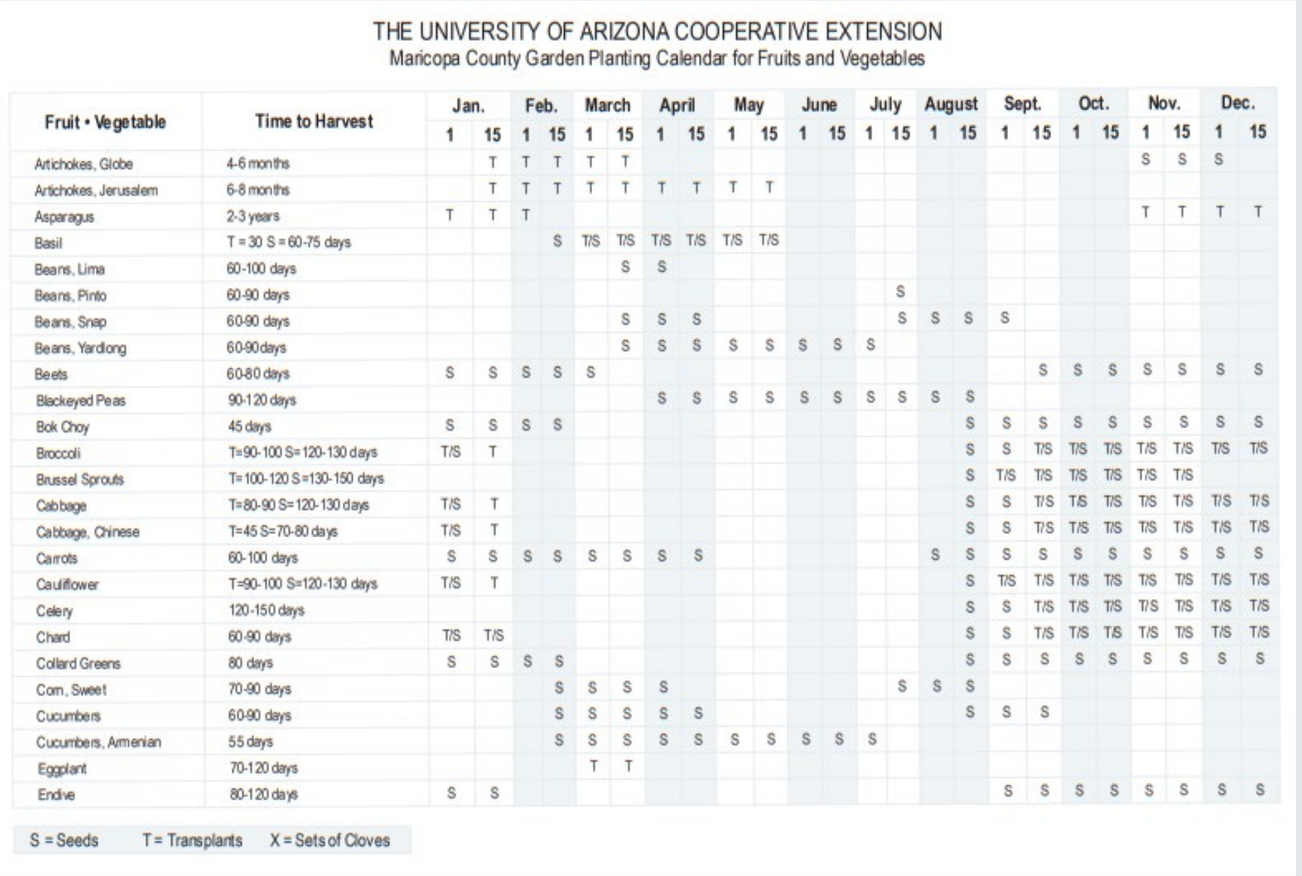

THE UNIVERSITY OF ARIZONA COOPERATIVE EXTENSION
Maricopa County Garden Planting Calendar for Fruits and Vegetables

| Fruit • Vegetable | Time to Harvest | Jan. | | Feb. | | March | | April | | May | | June | | July | | August | | Sept. | | Oct. | | Nov. | | Dec. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 | 1 | 15 |
| Artichokes, Globe | 4-6 months | | T | T | T | T | T | | | | | | | | | | | | | | | S | S | S | |
| Artichokes, Jerusalem | 6-8 months | | T | T | T | T | T | T | T | T | T | | | | | | | | | | | | | | |
| Asparagus | 2-3 years | T | T | T | | | | | | | | | | | | | | | | | | T | T | T | T |
| Basil | T = 30 S = 60-75 days | | | | S | T/S | T/S | T/S | T/S | T/S | T/S | | | | | | | | | | | | | | |
| Beans, Lima | 60-100 days | | | | | | S | S | | | | | | | | | | | | | | | | | |
| Beans, Pinto | 60-90 days | | | | | | | | | | | | | S | | | | | | | | | | | |
| Beans, Snap | 60-90 days | | | | | | S | S | S | | | | | S | S | S | S | | | | | | | | |
| Beans, Yardlong | 60-90 days | | | | | | S | S | S | S | S | S | S | S | | | | | | | | | | | |
| Beets | 60-80 days | S | S | S | S | S | | | | | | | | | | | | | S | S | S | S | S | S | S |
| Blackeyed Peas | 90-120 days | | | | | | | S | S | S | S | S | S | S | S | S | S | | | | | | | | |
| Bok Choy | 45 days | S | S | S | S | | | | | | | | | | | | S | S | S | S | S | S | S | S | S |
| Broccoli | T=90-100 S=120-130 days | T/S | T | | | | | | | | | | | | | | S | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Brussel Sprouts | T=100-120 S=130-150 days | | | | | | | | | | | | | | | | S | T/S | T/S | T/S | T/S | T/S | T/S | | |
| Cabbage | T=80-90 S=120-130 days | T/S | T | | | | | | | | | | | | | | S | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Cabbage, Chinese | T=45 S=70-80 days | T/S | T | | | | | | | | | | | | | | S | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Carrots | 60-100 days | S | S | S | S | S | S | S | S | | | | | | | S | S | S | S | S | S | S | S | S | S |
| Cauliflower | T=90-100 S=120-130 days | T/S | T | | | | | | | | | | | | | | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Celery | 120-150 days | | | | | | | | | | | | | | | | S | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Chard | 60-90 days | T/S | T/S | | | | | | | | | | | | | | S | S | T/S | T/S | T/S | T/S | T/S | T/S | T/S |
| Collard Greens | 80 days | S | S | S | S | | | | | | | | | | | | S | S | S | S | S | S | S | S | S |
| Corn, Sweet | 70-90 days | | | | S | S | S | S | | | | | | | S | S | S | | | | | | | | |
| Cucumbers | 60-90 days | | | | S | S | S | S | S | | | | | | | | S | S | S | | | | | | |
| Cucumbers, Armenian | 55 days | | | | S | S | S | S | S | S | S | S | S | S | | | | | | | | | | | |
| Eggplant | 70-120 days | | | | | T | T | | | | | | | | | | | | | | | | | | |
| Endive | 80-120 days | S | S | | | | | | | | | | | | | | | S | S | S | S | S | S | S | S |

S = Seeds T = Transplants X = Sets of Cloves

# Importance of Identification and Monitoring in your IPM

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PhD Student Entomology and Insect Science

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# What is a pest?

- Who defines what is a pest?
- A pest is **any organism that spreads disease, causes destruction or is otherwise a nuisance**

Treated

Untreated

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# Identification Is KEY!!!

- Not only identification of the pest is key but also the scenario


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# Pest or not?

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# Pest or not?

Forage (Hay, Haylage, Greenchop)

Seed

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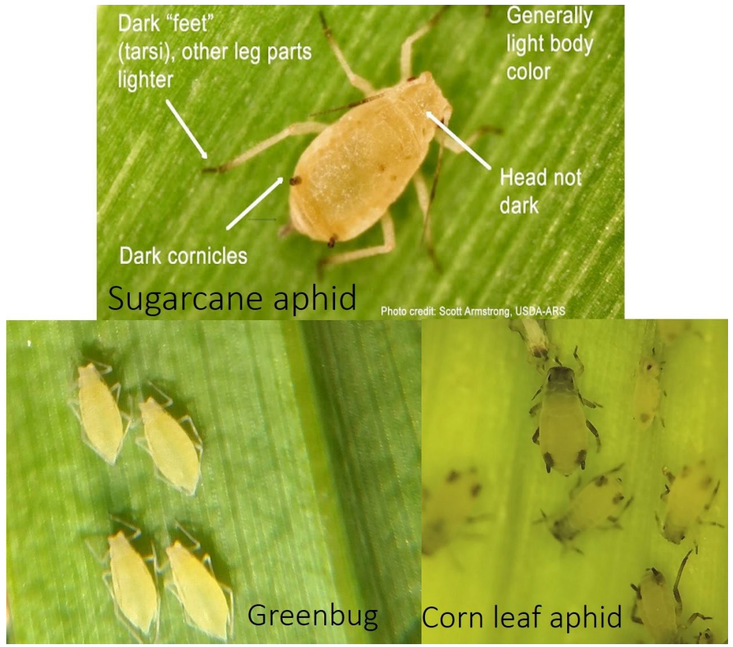
# Pest or not?

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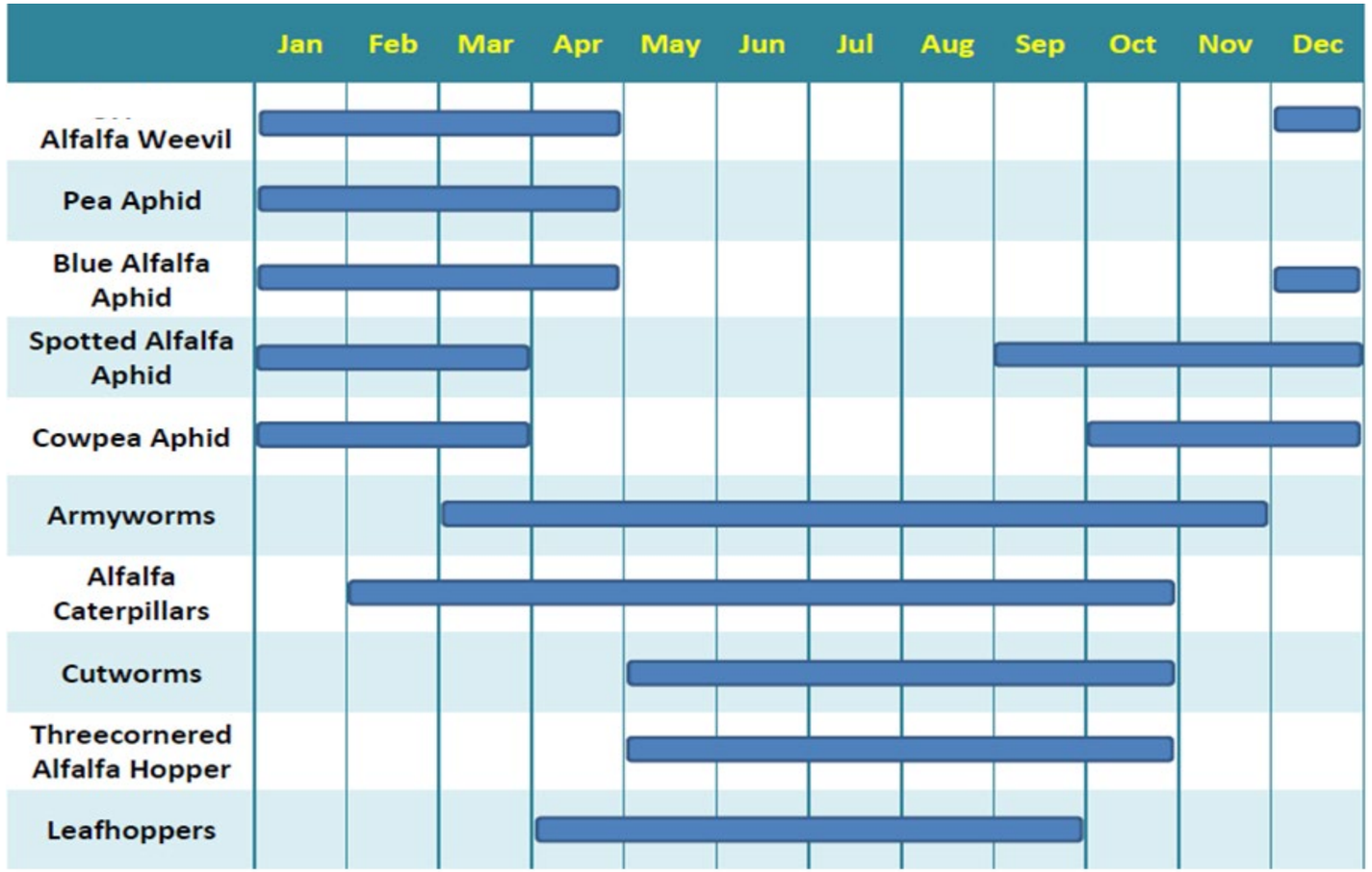
# How often should we be monitoring?

- Depends on the pest right…
- Could be at germination, every month, every other week, every week or maybe even every day!!!

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# How should we be monitoring?

- In a representative manner!!!
- Alfalfa we do 5 sweeps in each quadrant of a field and take the averages.
- Sorghum and corn we take 5 random leaves far enough from one another and split field into quadrants once again to get field scale averages

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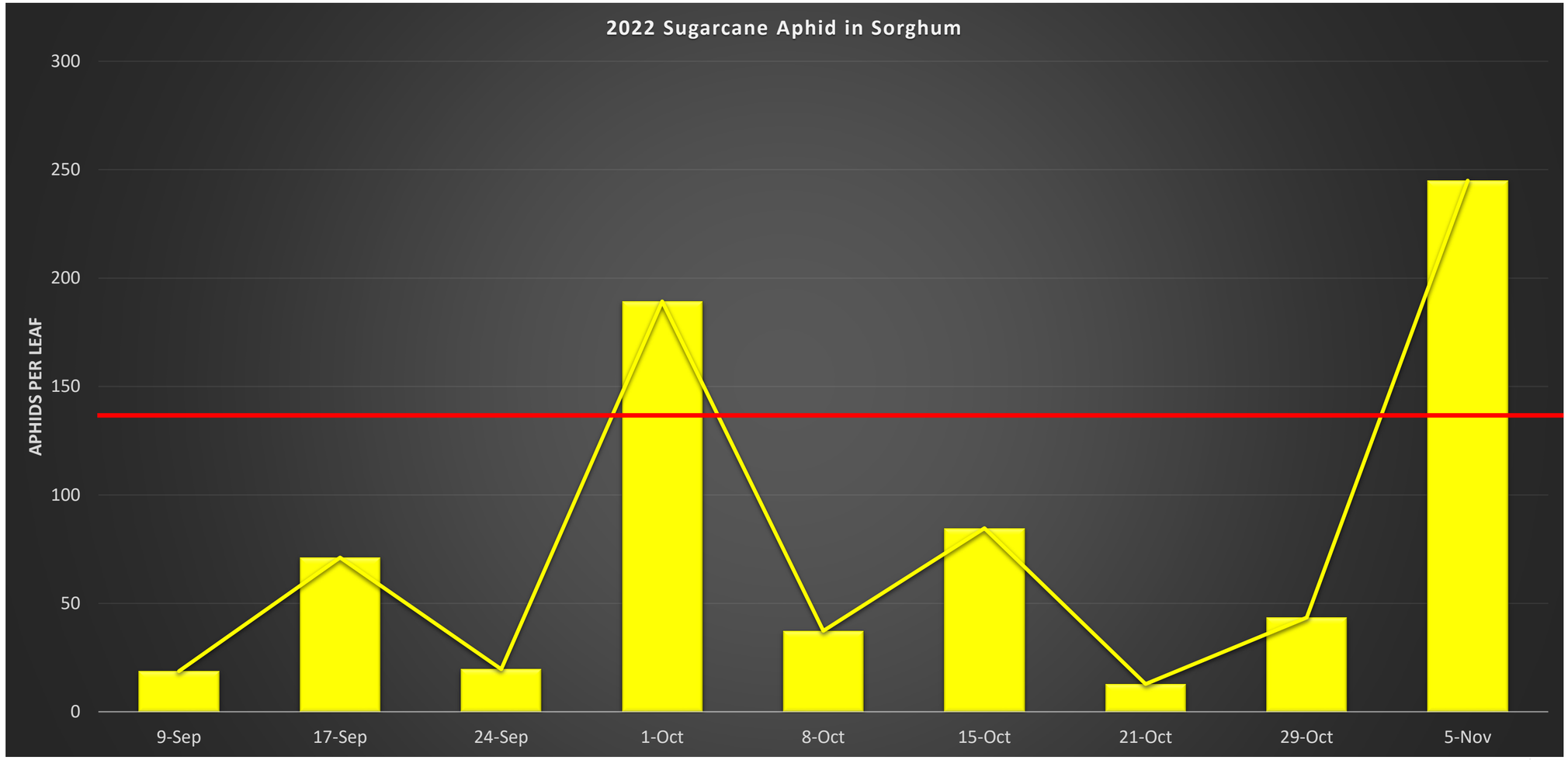
# Sugarcane Aphid scenario…

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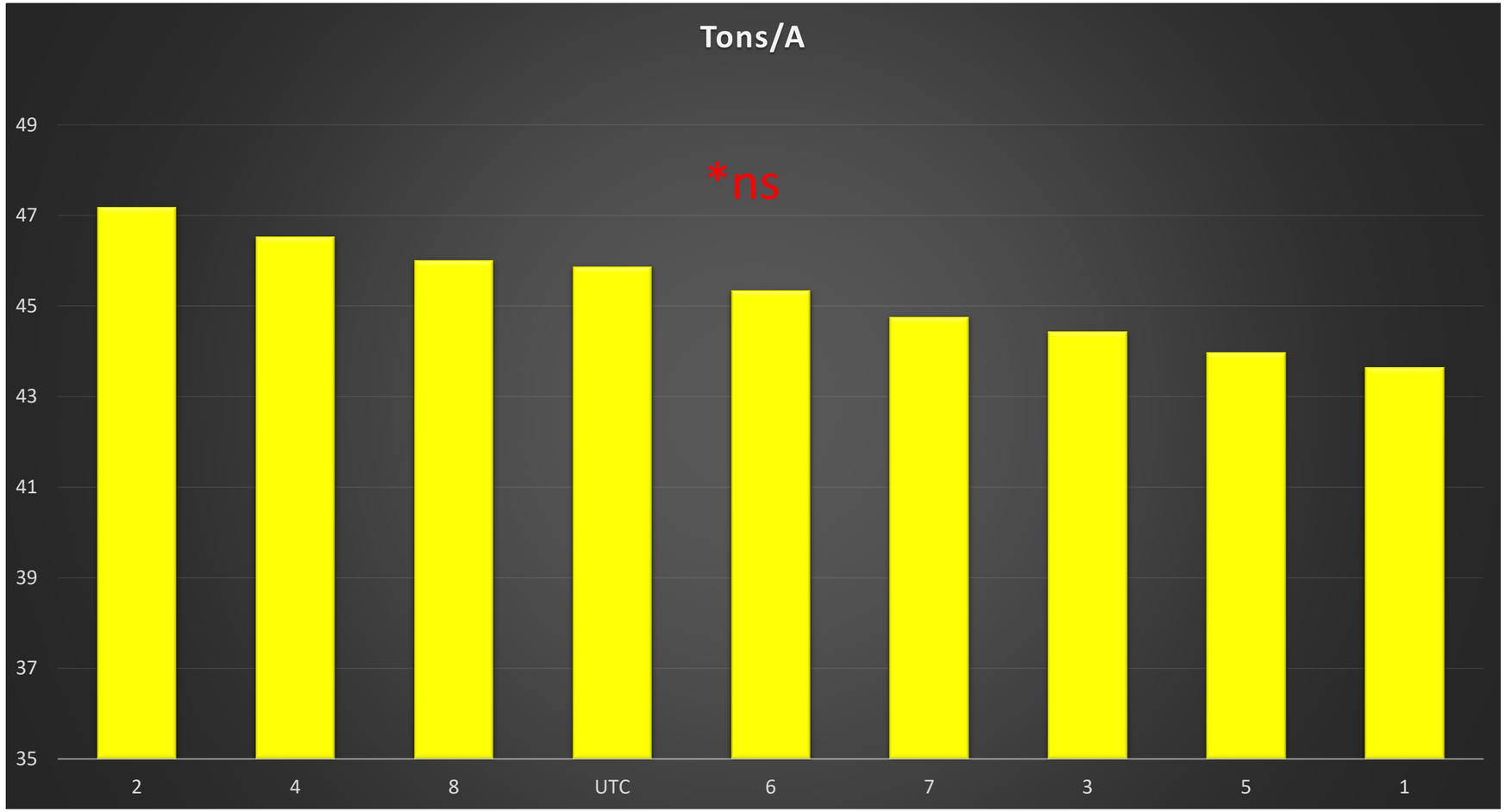


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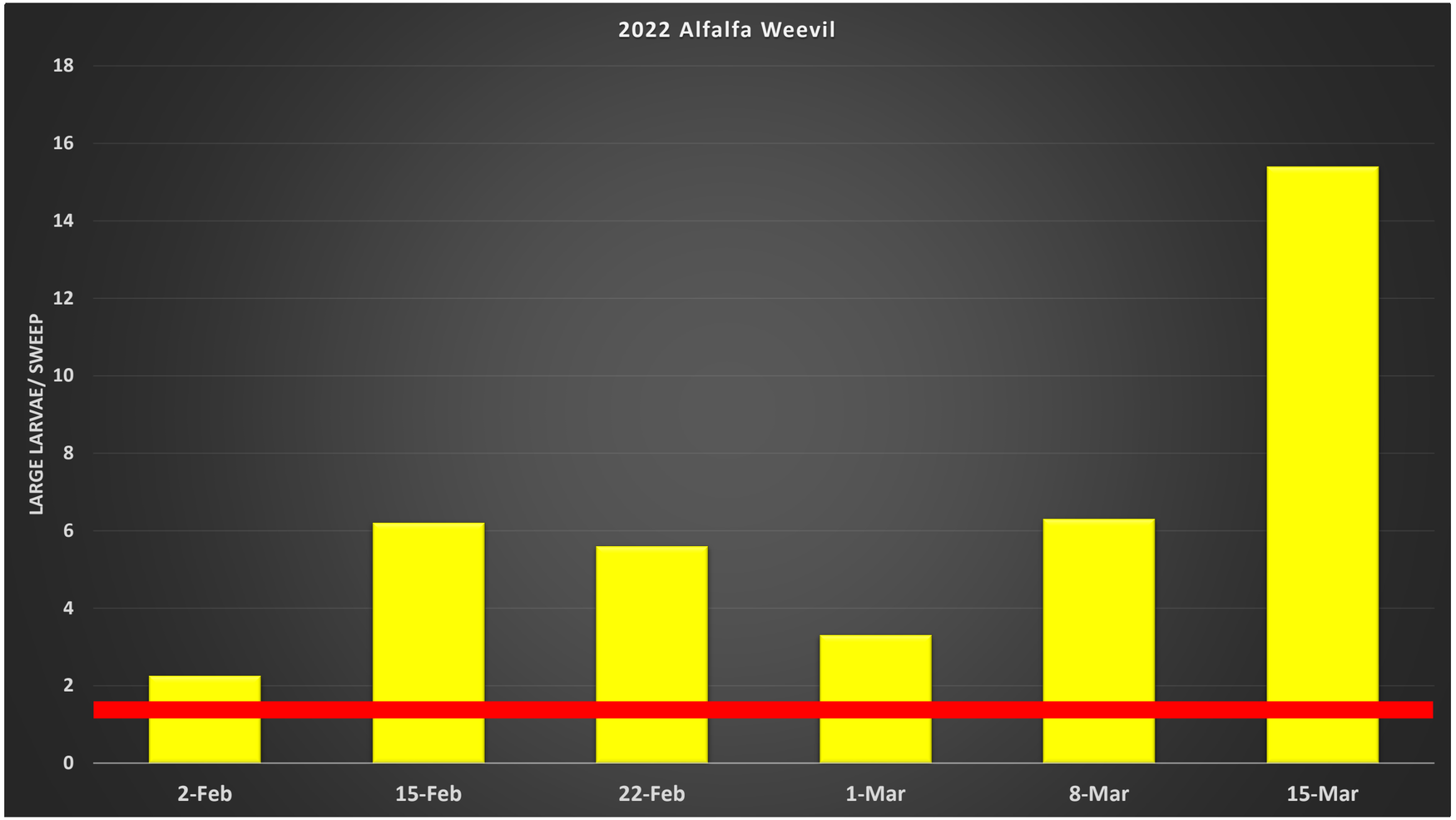
# Weevil scenario…

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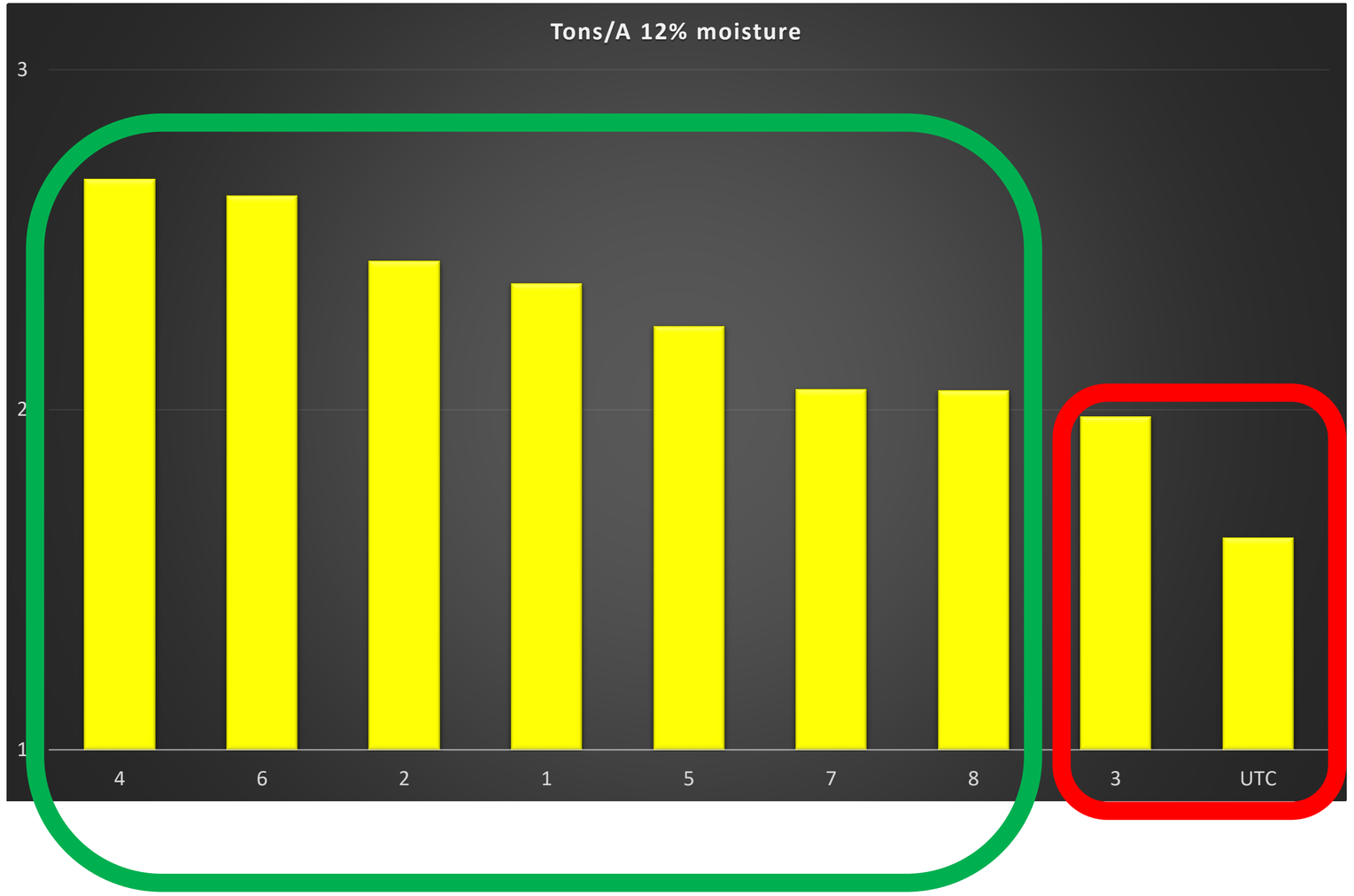
# Weevil scenario…

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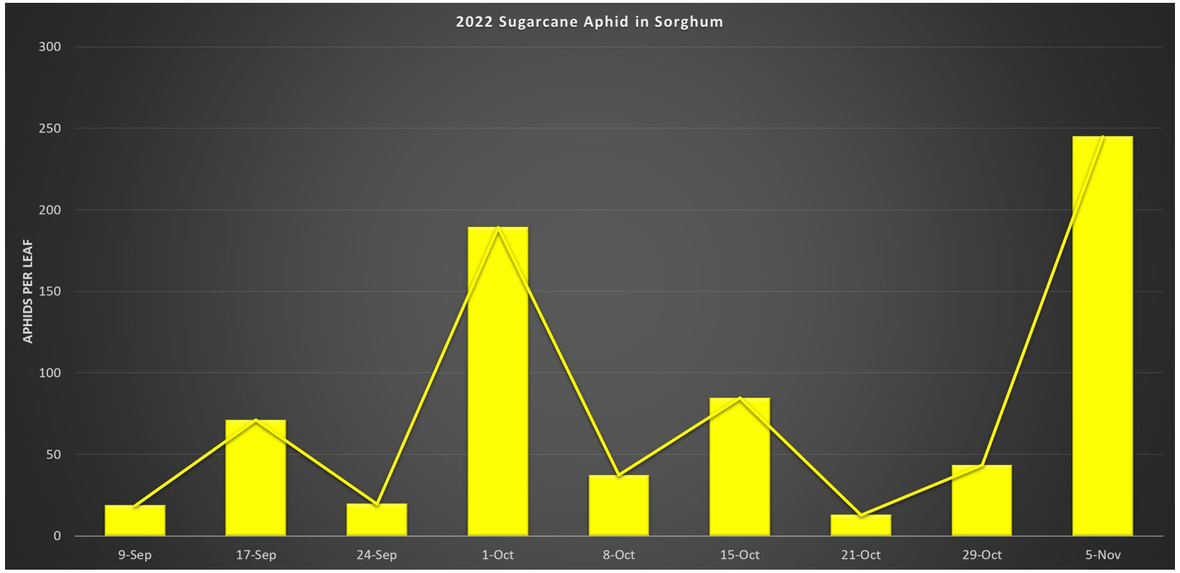
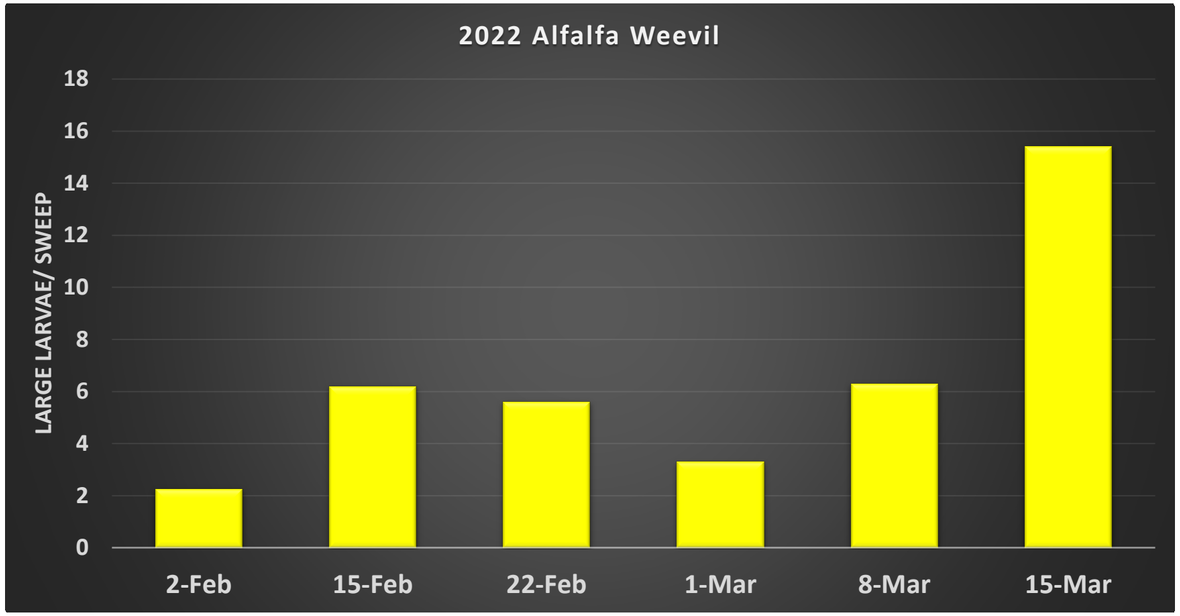
# So We Should Know Our Pest

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# Know Your Crop and the Pests (and Beneficials) Associated with it!!!

Example: Leaf Lettuce

- Main Pests
- ID correctly and know life history
- Know the damage that they cause
- Look into Management and Control options

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# Know Your Crop and the Pests (and Beneficials) Associated with it!!!

Example: Leaf Lettuce (Cont…)

https://acis.cals.arizona.edu/

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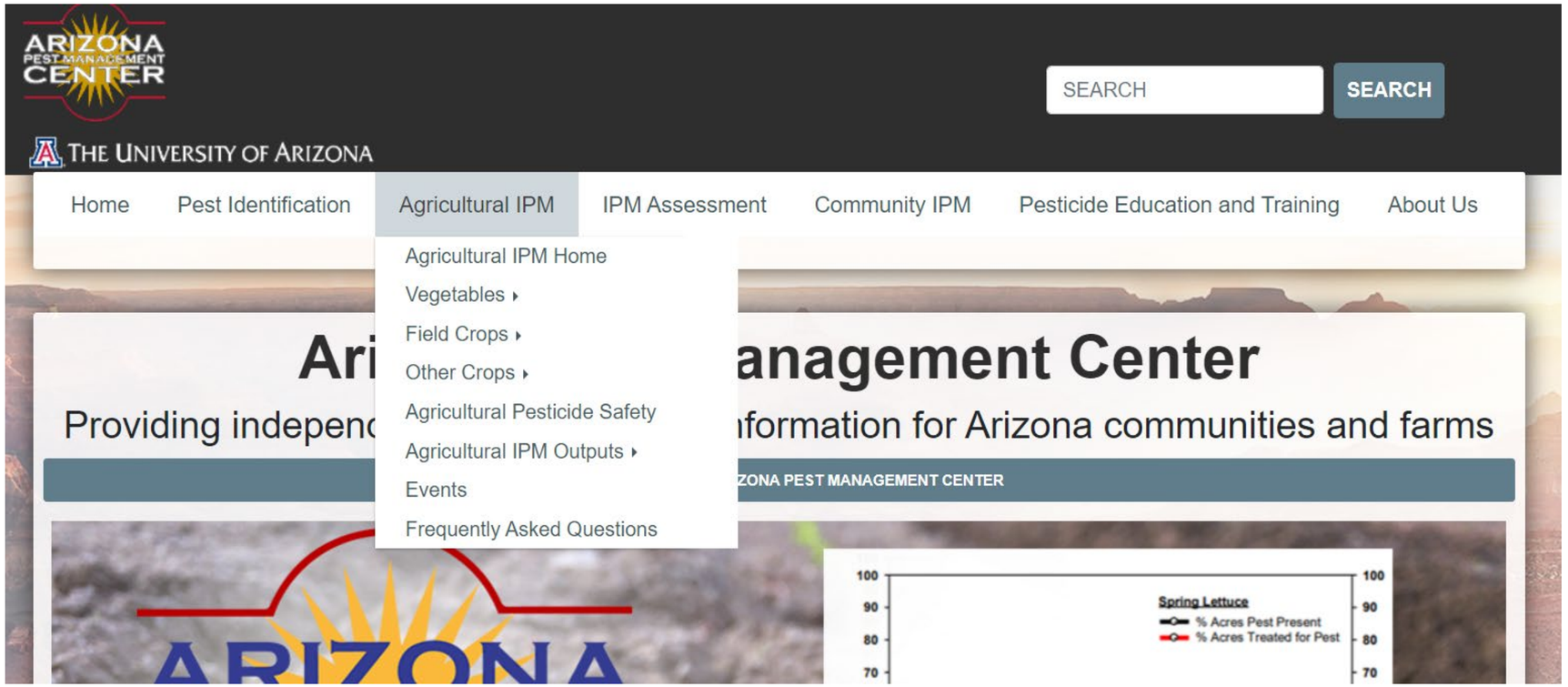


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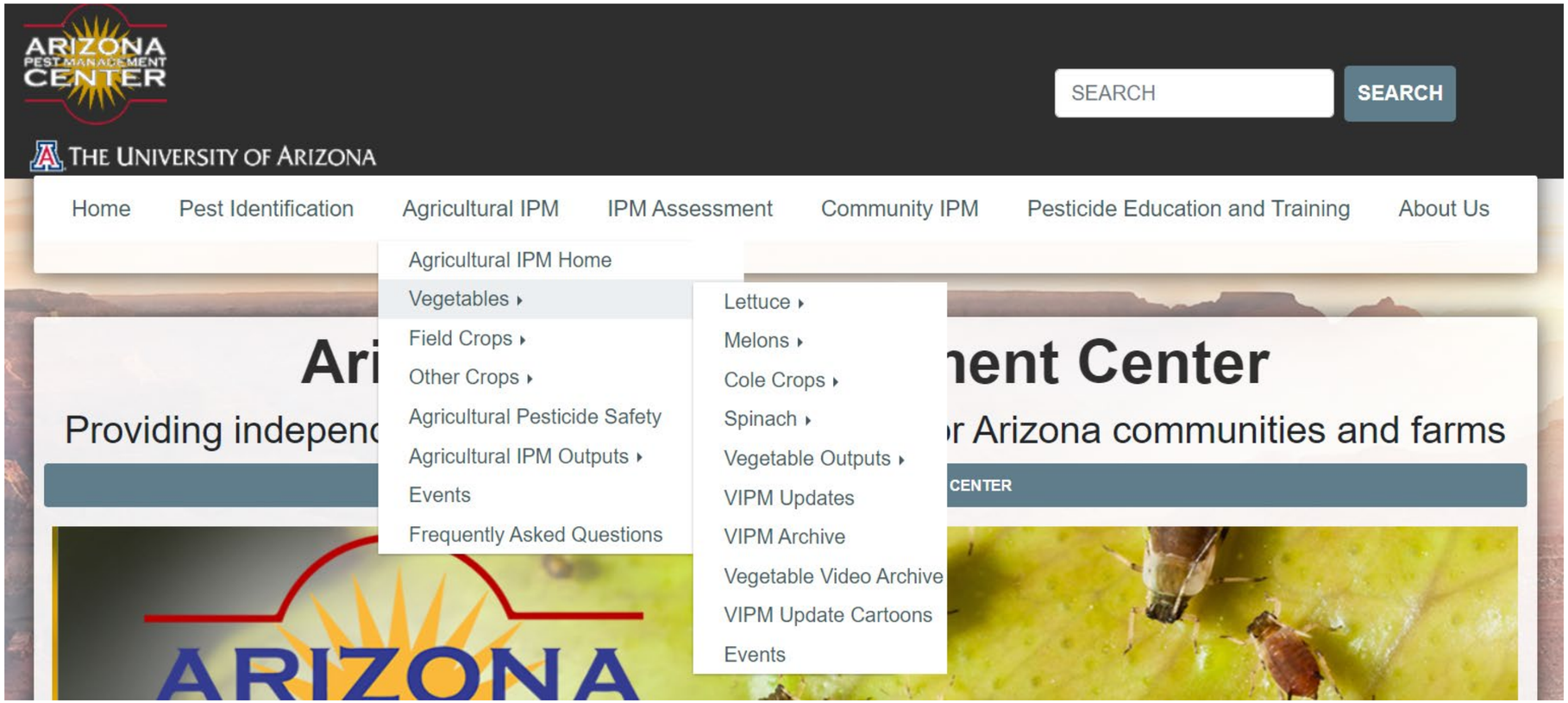
Example: Leaf Lettuce (Cont…)

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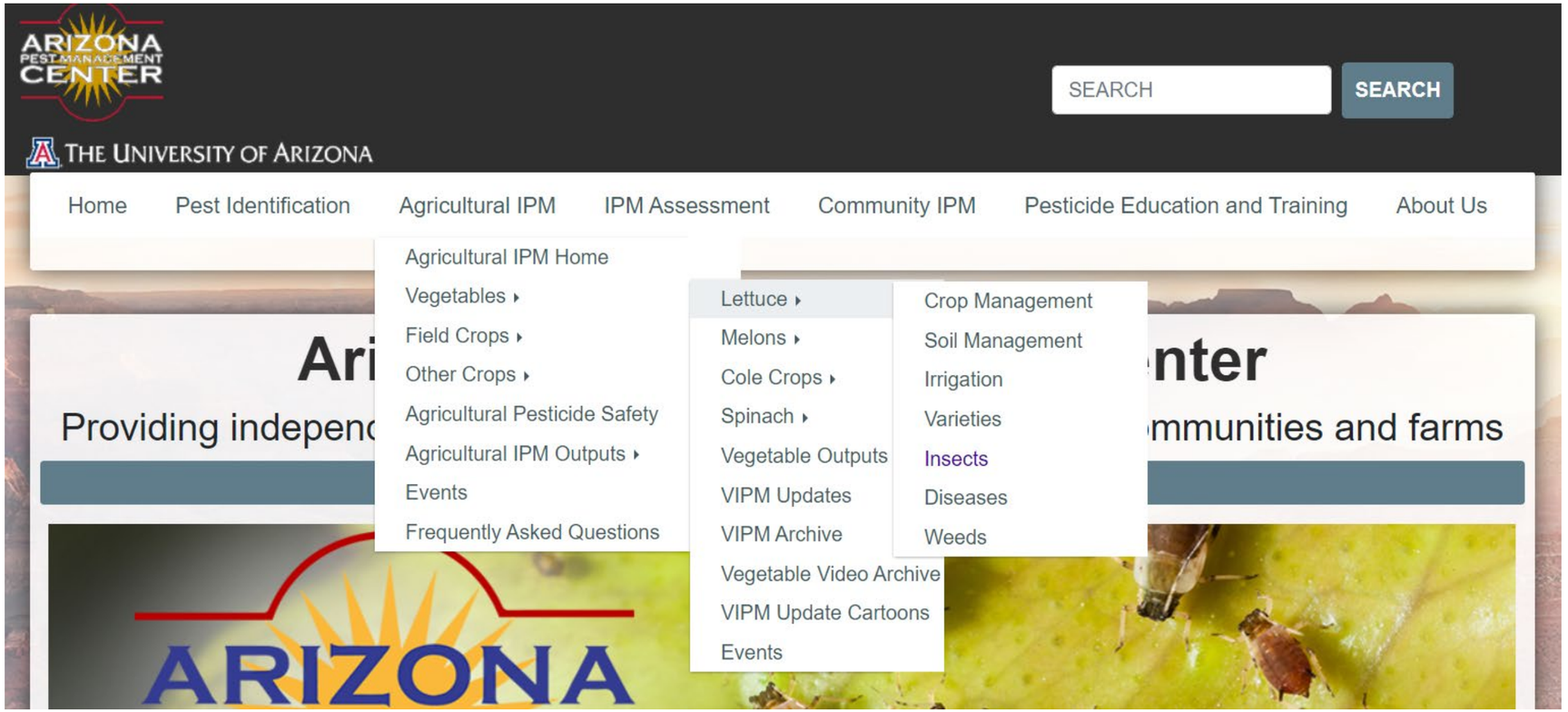


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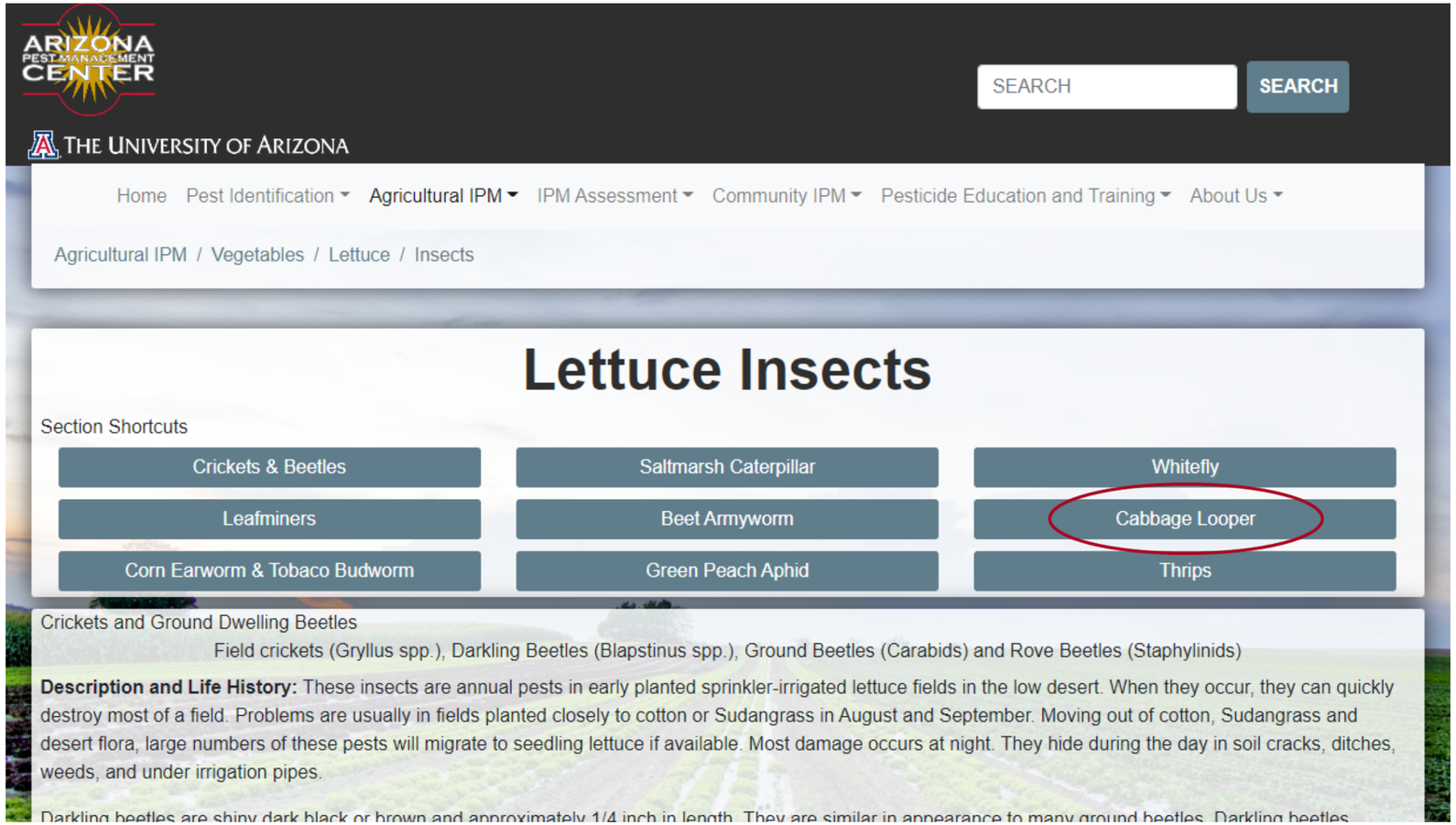


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Cabbage Looper

Trichoplusia Ni (Hubner)

**Description and Life History:** The cabbage looper is a very destructive pest on lettuce and will feed on many other crops including cole crops, leafy greens, melons, tomatoes, and cotton (Fig. 8). Cabbage loopers occur year round in Arizona's central and southwestern desert areas. Populations are especially a problem in the fall, when newly-planted winter vegetables are emerging.

Figure 8. Cabbage looper larva.

Cabbage looper moths lay single, dome-shaped eggs on the under side of older leaves. A single female may lay 275 to 350 eggs. Eggs will darken as they age, and will hatch in 2 to 5 days. The larvae are light green in color and have a distinctive white stripe along each side of the body. The larvae have two sets of legs in the front of the body and three sets of fatter, unjointed prolegs at the rear. They move in a "looping" manner, arching the middle portion of the body as they move forward. Two to four weeks are required for full development to a 5th instar larva. Cabbage looper pupae appear as greenish to brown pupas wrapped in a delicate white cocoon of fine threads usually attached to the underside of the leaf. Pupation usually takes 10 to 16 days. The moth is mottled brown in color, and has a small silvery spot (sometimes a figure 8) near the middle of its front wing. Cabbage loopers may have 3 to 5 generations per year.

**Damage:** Loopers damage plants by eating ragged holes in leaves, and sometimes working their way into heads. They also cause damage by contaminating marketable portions with their bodies and frass. High populations can chew seedlings severely enough to kill them or slow growth enough to inhibit uniform maturing of the crop, but most economic damage occurs after heading. Young plants between thinning and heading can tolerate substantial feeding by loopers and other caterpillars without loss of yield or quality. Heads contaminated with loopers, or tunneled into by loopers are not marketable.

**Management and Control:** Monitoring for cabbage looper and other Lepidopterous pests should involve sampling plants twice a week once seedling emergence begins. When populations appear to be increasing, check more often. Follow the guidelines used for monitoring beet armyworms. On lettuce, monitor for eggs and larvae of loopers while checking for other caterpillar pests that feed on leaves and heads. Action thresholds are similar to those of beet armyworm: treat seedlings or small plants when populations of small loopers are large enough to stunt growth. If other Lepidopterous species are present, also include them in this total. Between thinning and heading, treat if the worm population reaches one larva per 50 plants. During head formation, treat if sample counts exceed one larva per 25 plants. Cabbage loopers are especially sensitive to B.t.s. Including a B.t. with insecticide applications targeting beet armyworms will usually control any cabbage loopers present.

Cabbage Looper Image Gallery

Cabbage Looper Publications

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