



Photo by Blank Guerin

Figure 1. Cutleaf evening primrose emergence and growth in row middles between plastic mulched raised beds.

Cutleaf evening primrose management in vegetable production

BY RUBY TIWARI AND RAMDAS KANISSERY

Cutleaf evening primrose (*Oenothera laciniata*) is an annual weed (or sometimes a biennial) commonly found throughout vegetable farms in Florida. This weed got its name due to the timing of its flower opening. It tends to close its flowers during the day but opens them during evening or nighttime.

Cutleaf evening primrose is a heavy seed setter. The seeds can remain viable in soil for several decades, creating a seed bank in the soil for future infestation if not managed properly (Figure 1).

OCCURRENCE AND GROWTH STAGES

Cutleaf evening primrose is native to the United States and occurs throughout the southeastern states. The weed typically emerges in late fall or early spring and completes its life cycle before summer. Every so often, however, this weed takes two years or seasons to complete its life cycle. The plant produces a rosette of leaves the first year. Flowers, fruit and seeds will be formed during the second year of growth.

Newly emerged cutleaf evening primrose has egg-shaped cotyledons. Seedlings are formed as basal rosettes

(Figure 2A, page 20). Young leaves develop untoothed margins while the matured leaves have toothed margins (Figure 2B and Figure 2C, page 20). As the plant matures, the margins of the leaves develop deep teeth (hence the name “cutleaf”).

The upper surfaces of the leaves tend to be hairy. This weed also has hairy stems that are often reddish and can either be simple or branched from the base. Key identifying features of this weed species are the white mid-vein typically found on the leaves and a red-colored base when cut with a knife near the soil.

Individual flowers consist of yellow or yellowish-red, or pink petals fused at their base to form a long narrow tube (Figure 2D and Figure 2E, page 20). The fruit is a capsule (~1-inch long) that tapers toward the end. Once the fruit capsule matures, it opens and releases the seeds into the soil. Each plant can produce up to 100 capsules with more than 100 seeds per capsule.

Usually, this weed grows upright and can grow up to a couple of feet tall. Occasionally, however, the stems recline and may show a spreading or creeping growth habit (Figure 2F, page 20).

MANAGEMENT CONSIDERATIONS

Cutleaf evening primrose that emerges on raised beds and in the spaces between the raised beds (row middles) can be very competitive with vegetable crops. This weed also can serve as a host for pests and diseases. Moreover, cutleaf evening primrose germinating late in the season in row middles can potentially interfere with harvesting operations. Hence, effective strategies to manage this weed should be in place. This starts with proper sanitation and scouting practices.

Special attention should be given to examining farm perimeter areas, canal banks, etc., as these could be sources for invasion of cutleaf evening primrose onto the farm. Mow or spray the weeds at the edges of fields and the banks of irrigation channels to