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# Eclipta Identification and Control in Peanut

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*Eric P. Prostko*  
*Assistant Professor and Extension Agronomist – Weed Science*

## Introduction

Eclipta (*Eclipta prostrata* formerly *Eclipta alba*) is a broadleaf weed that can occasionally be found in fields throughout the peanut belt. In Georgia, eclipta is not considered to be one of the most common weeds in peanut, but it can be very troublesome in years when environmental conditions (cool, wet) favor its development (Figure 1). Eclipta is considered to be one of the world's worst weeds and has been reported to be a problem in 17 crops in 35 countries. Other names for eclipta include yerba-de-tago and false daisy.

## Description

Eclipta plants can grow either prostrate (flat) or erect (upright) up to 36 inches tall (Figure 2). Seedling leaves are ovate to egg-shaped with short, toothed margins (Figure 3). Older leaves are opposite and lanceolate (long and narrow) with toothed margins (Figure 4). Stems are red-



**Figure 2.** Eclipta line drawing from USDA-NRCS PLANTS Database/Britton, N.L. and A. Brown. 1913. *Illustrated Flora of the Northern States and Canada*. Vol. 3:486.

dish-purple with short, flat, up-turned hairs (Figure 5). Eclipta has round flowers that are green early then white with short rays (Figure 6).

## Biology

Like many other plants that have become weed problems, eclipta is not native to the United States. It was introduced from Asia. Eclipta is a member of the *Compositae* or *Asteraceae* plant family. This is the third most important plant family in terms of the number of weed species and includes plants such as common cocklebur (*Xanthium strumarium*), common ragweed (*Ambrosia artemisiifolia*), and bristly starbur (*Acanthospermum hispidum*).



**Figure 1.** Eclipta infestation in peanut near Moultrie, Ga., 2003. [E.P. Prostko]



**Figure 3.** Eclipta two-leaf seedling. [J.H. Brock]



**Figure 4.** Eclipta has opposite leaves with toothed margins. [E.P. Prostko]



**Figure 5.** Eclipta has hairy, reddish-purple stems. Flowers are green when immature. [E.P. Prostko]

Eclipta is a summer annual weed that has the potential to produce 17,000 seeds per plant (Figure 8). Eclipta seed can germinate over a wide range of soil temperatures (50 to 95 degrees F) and pH levels (5 to 8). Optimum temperature for germination is 95 degrees F. Eclipta germination is greater in moist soils, so it is most often found in poorly drained or low lying areas of a field and in years of excessive rainfall.

Competition studies to assess the influence of eclipta populations on peanut yield have not been conducted at this time. However, some research has shown that the presence of eclipta in peanut can reduce yields more than 75 percent.

Eclipta can act as a host for Sclerotinia blight (*Sclerotinia minor*). Although this disease is not present in Georgia, it is common in many other peanut producing states such as North Carolina, Oklahoma, Texas and Virginia. Additionally, eclipta is an alternate host of the southern root-knot nematode (*Meloidogyne incognita*), which was identified in more than 65 percent of the soil samples analyzed in a recent University of Georgia survey.

## Control

### Soil-Applied Herbicides

Preplant-incorporated or preemergence applications of **Strongarm** (diclosulam) or **Spartan** (sulfentrazone), or a preemergence application of **Valor** (flumioxazin) provide good to excellent residual control of eclipta. Preemergence herbicides are most effective when followed by at least 0.5 inches of rainfall or irrigation within 7 to 10 days after application. Under extremely dense populations of eclipta, control from a soil-applied herbicide may need to be augmented with a sequential postemergence herbicide application.

### Postemergence Herbicides

Postemergence herbicides that provide adequate control of eclipta include **Basagran** (bentazon), **Storm** (bentazon + acifluorfen), and **Ultra Blazer** (acifluorfen). These herbicides are most effective if applied to eclipta plants less than 2 inches in height. Postemergence herbicide applications made to eclipta greater than 2 inches often result in reduced control (Table 1).

**Table 1. The influence of herbicide and application timing on eclipta control in peanut<sup>a</sup>**

Herbicide <sup>b</sup>	Rate/A	Timing <sup>c</sup>	Eclipta Control (%) <sup>d</sup>
Basagran 4SC	1.5 pts	EPOST	99
		LPOST	-
Blazer 2SC	1 pt	EPOST	79
		LPOST	30
Storm 4SC	1.5 pts	EPOST	97
		LPOST	58

<sup>a</sup> Adapted from W.J. Grichar, 1997.

<sup>b</sup> All treatments included Agridex @ 1 qt/A.

<sup>c</sup> EPOST = early-postemergence when eclipta was <2" tall;

LPOST = late-postemergence when eclipta was 3-4" tall.

<sup>d</sup> Average of 3 years.

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**Figure 6.** Eclipta flower. [E.P. Prostko]



**Figure 7.** Eclipta in peanut. [E.P. Prostko]



**Figure 8.** Eclipta seed. [J.H. Brock]

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## Attention!

### Pesticide Precautions

- It is the responsibility of the pesticide user to observe all directions, restrictions and precautions on pesticide labels. It is dangerous, wasteful and illegal to do otherwise.
- Store all pesticides in original containers with labels intact and behind locked doors. **KEEP PESTICIDES OUT OF THE REACH OF CHILDREN.**
- Use pesticides at correct label dosage and intervals to avoid illegal residues or injury to plants and animals.
- Use pesticides carefully to avoid drift or contamination of non-target areas.
- Surplus pesticides and containers should be disposed of in accordance with label instructions so contamination of water and other hazards will not result.
- Follow directions on the pesticide label regarding restrictions as required by State or Federal Laws and Regulations.
- Avoid any action that may threaten an endangered species or its habitat. Your county extension agent can inform you of endangered tify them and, through the Fish and Wildlife Service Field Office, identify actions that may threaten endangered species or that habitat.

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