

Aeschynomene¹

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Aeschynomene is a warm-season annual legume adapted to moist sites throughout the state, but it is mainly grown in South Florida. Seed of two species are commercially available to producers: *Aeschynomene americana*, also known as common aeschynomene, joint vetch or deer vetch, and *Aeschynomene evenia*, which has no common name.



Figure 1. Common aeschynomene growing with Limpograss (*Hemarthria*).

Credits: Carroll Chambliss, UF/IFAS

Aeschynomene americana, or common aeschynomene, is a true annual that flowers and produces seed in the early fall. Plants usually die after seed has matured, but the stand can be managed to re-seed and maintain itself in good production for several years after first establishment. Common aeschynomene has a high nutritive value and has been used

in the cattle industry and for wildlife plantings for many years.

Aeschynomene evenia is a short-lived perennial. Plants stay green during the fall until frost. In South Florida during a mild winter, plants will live through the winter and put out new growth in the spring. Flowering and seed production occur throughout the year. *Aeschynomene evenia* has a characteristic smell. The nutritive value of *Aeschynomene evenia* is similar to common aeschynomene, but unlike common aeschynomene (deer vetch), it is **not** immediately palatable to cattle. Cattle need time to adapt to this legume, and they will only graze small plants. Do not let *evenia* plants become large and stemmy because cattle will not graze them. It has been observed that in a mixture of common aeschynomene and *Aeschynomene evenia*, deer grazed the common aeschynomene but did not graze the *Aeschynomene evenia*. The cultural practices recommended in this publication apply to common aeschynomene but are believed to be approximately the same for *Aeschynomene evenia*.

Cultural Practices

Site Selection

Aeschynomene grows best on moist, fertile soils. It is more tolerant of extremely wet conditions than of drought.

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Surface drainage is needed especially during establishment. Although well-established plants can withstand short periods of flooding, young plants (seedlings) can be injured or killed if plants are completely submerged in water.

Liming and Fertilization

The adequate pH to plant *aeschynomene* is between 5.5 and 6.0. Plant nutrients should be applied after a successful stand of seedlings has emerged. After the seedlings are 2 weeks old, fertilize with 30 lbs/A of P₂O₅ and 60 lbs/A of K₂O if the soil tests are low or medium in these plant nutrients. Micronutrients are not generally recommended on land that has been fertilized for several years, unless poor plant growth and appropriate symptoms indicate a deficiency.

Seeding Rate and Date

Seed of *aeschynomene* (common and *A. evenia*) may be bought dehulled (naked) or intact (nonhulled or with the hull attached). There are approximately twice as many seed per pound when the hull has been removed compared to when the hull is attached. Dehulled seed may be planted at 5–8 lbs/A. If seeded with a precision planter on a clean-tilled seedbed, the lower seeding rate may be used. Broadcast seeding requires the higher seeding rate, especially when seed are broadcast on established pasture sod. Intact seed should be planted at the rate of 20–25 lbs/A. A 50/50 mixture of seed with and without hulls can be used at all times of planting to minimize establishment failures due to drought or short periods of excessive moisture.

Seeding date can be critical to successful establishment. *Aeschynomene* is usually planted in June when the summer rains start. It has been planted successfully in April and May when spring rainfall has been above normal. Stand failure of *aeschynomene* is mainly caused by inadequate soil moisture at or shortly after seeding.

When seedlings are made prior to June 1 or the start of the summer rainy period, use seed with the hulls attached at the rate of 25 lbs/A. Immediate germination will range from 5% to 10%. If these seedlings die due to drought, there will be plenty of seed to germinate when the next rain comes. When planting after June 1, use dehulled seed for fast germination as high as 90%–95%.

Inoculation

Inoculate *aeschynomene* seed with the proper bacteria (cowpea group) when planting into new land or into fields where a summer legume has never been grown. Inoculation of the seed is not required if *aeschynomene* or some

other summer legume that requires the cowpea inoculant has been grown in the area to be planted; in this case, the cowpea inoculant should already be present.

Overseeding Bahiagrass Pastures

Certain management practices should be followed to minimize competition of the bahiagrass with the *aeschynomene* seedlings and allow for successful establishment. These practices include: 1) burning excess bahiagrass in late winter if there is enough fuel to carry a fire; 2) no application of nitrogen during the spring preceding planting of the *aeschynomene*; 3) removal of excess bahiagrass before seeding by grazing close (2–4 inches); and 4) chopping or disking. Allow the *aeschynomene* plants to reach a height of 12–18 inches before grazing. If self re-seeding of the stand or seed production of common *aeschynomene* is contemplated, then cattle must be removed from pasture from mid-August through November of the year of establishment to allow the crop to flower and set seed. Cattle removal is not required for *evenia*, which flowers and seeds throughout the year.

Various seeding methods and types of seeders can be used. Sod-seeding drills are useful and result in less soil moisture loss compared to broadcast methods where light disking or chopping, seeding and rolling are used to obtain seed-to-soil contact. Regardless of the method used, seed should be placed at 1/2–3/4 inch deep.

Grazing Management

Rotational grazing is recommended when plants reach a height of 18 inches. A stocking rate of 2–5 animal units per acre has been suggested. Graze the plants back to about 8–14 inches and move to the next pasture. Maintaining a 14-inch stubble will allow for maximum regrowth and good seed production.

Aeschynomene provides much needed protein in July, August, and September when perennial grasses are usually deficient in protein. Protein in leaves and young stems of *aeschynomene* will exceed 20%. Nursing calves that have common *aeschynomene* available will gain an extra 30–50 lbs compared to calves that have only perennial grass.

Management of *Aeschynomene evenia*

Aeschynomene evenia must be grazed heavily so that it does not become the dominant plant in the pasture. Graze it hard early in the year once it is 18–24 inches tall. If left ungrazed, it will become woody and unpalatable and will

shade the bahiagrass. Do not graze pure stands of *Aeschynomene evenia*; allow cattle to have access to grass as well.

Harvested Forage

Aeschynomene is best suited for grazing. Although some hay and silage have been made, neither process works very well. The plants are high in moisture and mucilaginous (sticky secretion), which causes problems in handling fresh material. When dried, the leaves and small stems become very brittle, causing high losses in hay making.