

## **AESCHYNOMENE FEED, SEED & NITROGEN**

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Williamson Cattle Company is a beef cow/calf ranch in Okeechobee County. Summers in south Florida, with our high temperature and excessive rain fall, make it difficult to provide a high protein forage for lactating cows and the suckling calves on them. Introduction of Aeschynomene into some of our pangolagrass and bahia fields have helped us

with this problem.

Aeschynomene is a sub-tropical summer legume native to South Florida. It's crude protein levels can be as high as 18-25% which is comparable to alfalfa. Aeschynomene grows in the warm months from spring to late fall. Some seed will germinate as soon as we get adequate moisture in the spring, but they can be killed due to a late March frost or a typical dry spring. Because of this I don't recommend planting and/or scarifying before May and preferably June. Aeschynomene should not be looked on as a crop for seed production purposes only. Its benefits are three fold.

Aeschynomene is a highly palatable forage that cattle

prefer and when mixed with bahia or pangolagrass, it is a good source of high protein forage during the summer months. The steers at our ranch have averaged 599# at 8-9 months old for the last three years. Much of the spring calves' (born January-March) summer gain comes from aeschynomene grazing from June to October.

The second benefit is in the nitrogen producing ability of this legume. A good aeschynomene field will produce more than 200 lbs. of nitrogen per acre in its leaves and nodules. This is equal to 600 lbs. of ammonium nitrate per acre. The cost of 600 lbs. per acre of ammonium nitrate at \$170.00 per ton would be \$51 per acre. The cost of 350 lbs. per acre of 0-10-30 for aeschynomene at \$105 per ton is \$18 per acre. The third and least predictable of aeschynomene benefits is seed production. Seed harvested at our ranch the last four years has averaged 96 lbs. per acre on a total acreage fertilized basis. The average value of this seed is \$35.03 per acre.  $(96\#/2) \times .73$ . Seed production has averaged 134 lbs. per acre when figured on a total acreage harvested basis. The average value of this seed is \$48.93 per acre.  $(135\#/2) \times .73$ .

Scarifying cost may run as much as \$8.50 per acre on already established fields and \$23 per acre for scaring and planting a field for the first time. The cost of this initial planting can be minimized if you incorporate the aeschynomene planting with your initial grass planting. The seed can be applied just ahead of the rollers after the grass sprigs are spread and disced in. If you are planning on renovating older pastures that have evolved into an undesirable grass such as smutgrass, this would be a good time to introduce a summer legume such as aeschynomene into those pastures.

If you are planting on a well prepared disced seed bed, 5 lbs. of hulled or 10 lbs. of unhulled seed per acre is adequate. If you are planting on an already established pasture you will need to chop or lightly disc the ground to insure good seed to soil contact. In established pastures I've found that a minimum of 10 lbs. of hulled or 20 lbs. of unhulled seed is needed per acre.

Hulled seed will generally germinate immediately and needs to be inoculated prior to planting. Unhulled seed will germinate slower and at different intervals. Generally, early plantings from April through June should be made with unhulled seed due to the unpredictable weather conditions. Late plantings from June through August should be made with hulled seed or a 50-50 mix of hulled and unhulled seed.

Grazing of aeschynomene should not start until it reaches a height of at least 3 inches. Rotational grazing of aeschynomene is best to minimize any selective grazing of the legume. Cattle and deer do prefer aeschynomene over any plant I know of, and in recent years, hunters in the gulf coast states have planted it specifically for whitetail deer.

Any aeschynomene that is worthy of seed production should not be grazed after September 1st. It is a good idea to get with your seed harvester at this point to get his opinion on

which fields may be harvestable.

TABLE 1. AESCHYNOMENE PRODUCTION RESULTS, 1985-1988

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|                               | Year     |          |          |          |          |
|-------------------------------|----------|----------|----------|----------|----------|
|                               | 1985     | 1986     | 1987     | 1988     | Average  |
| <b>FERTILIZER USED:</b>       |          |          |          |          |          |
| Acre                          | 290      | 470      | 246      | 740      | 437      |
| Analyses <sup>a</sup>         | 0-12-24  | 0-12-24  | 0-10-30  | 0-13-39  | 0-0-59   |
| Month Applied                 | July     | Sept.    | Sept.    | Jun/Sep  |          |
| Pounds/Acre                   | 300      | 350      | 350      | 470      | 368      |
| Cost/Ton                      | \$103.40 | \$ 99.91 | \$105.10 | \$144.38 | \$113.20 |
| Cost/Acre                     | \$ 15.51 | \$ 17.48 | \$ 18.39 | \$ 33.93 | \$ 21.33 |
| Cost/Acre Applied             | \$ 18.26 | \$ 20.23 | \$ 21.14 | \$ 39.43 | \$ 24.08 |
| <b>SEED HARVESTED:</b>        |          |          |          |          |          |
| Acres Harvested               | 20       | 470      | 110      | 650      | 313      |
| Pounds Harvested              | 2,900    | 42,200   | 7,500    | 115,350  | 41,988   |
| Pounds Harvested/Acre         | 145      | 90       | 68       | 177      | 134      |
| Owner's Share lbs./Acre       | 73       | 45       | 34       | 89       | 67       |
| <b>OWNER'S GROSS RETURNS:</b> |          |          |          |          |          |
| Selling Price/Pound           | \$ 0.50  | \$ 0.50  | \$ 1.00  | \$ 0.80  | \$ 0.73  |
| Per Acre Fertilized           | \$ 2.50  | \$ 22.45 | \$ 15.24 | \$ 62.35 | \$ 35.03 |
| Per Acre Harvested            | \$ 36.25 | \$ 22.45 | \$ 34.09 | \$ 70.98 | \$ 48.93 |

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<sup>a</sup>Each year's application contained micronutrients, 1988 was split application.