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Chopping Pastures Can Enhance Re-Establishment of Summer Legumes

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The benefits obtained from summer-growing legumes on flatwoods pastures are often less than expected. Two major causes of disappointment with *aeschynomene* and *carpon desmodium* are poor stand establishment and failure of stands to survive or improve over time. Timely efforts to provide advantages for these legumes in dense grass stands can provide substantial responses and result in improvement of less-than-satisfactory stands over a period of years.

In pastures where either *aeschynomene* or *carpon desmodium* plants have been able to build up a seed supply in previous years, chopping dense pasture sod can be very effective at increasing establishment of these legumes, even though recent information indicates that chopping may not be of substantial benefit to the grass. Considerable caution is warranted since the effects of chopping can be detrimental during dry weather. Moisture loss is greater from disturbed sod than from undisturbed pasture. When sufficient moisture for legume germination is not retained or subsequently received following chopping, soils can dry enough to restrict grass growth. Thus chopping is often a more desirable option in summer when moisture is good and prospects for continuing moisture are also good than in spring when dry weather is probable.

Chopping in early summer has been especially beneficial for re-establishing *aeschynomene* stands in pastures where seed supplies were built up in previous years with subsequent *aeschynomene* stand deterioration as dense grass sod developed. Both excessive competition from grass stands and insufficient moisture can limit re-establishment of *aeschynomene* stands each year. While grazing of spring and early-summer grass growth is beneficial, additional disturbance of grass sod with mechanical treatment such as chopping can make the difference between a sparse stand of limited

value and a dense productive stand of aeschynomene in years with sufficient rain. Because of the over-riding effect of moisture and its unpredictability, chopping only when moisture is already plentiful and the season is appropriate for continuing rain can increase the probability of obtaining the desired results. In years with inadequate rainfall by mid July, aeschynomene would not generally have an opportunity to produce substantial amounts of forage. Thus, chopping would not likely be worthwhile for the response in legume production during these dry years. However, where sufficient quantities of aeschynomene seed have built up, stands in future years from existing seed are not sacrificed by failure to obtain stands and seed in the adverse, dry years.

Since carpon desmodium is a perennial plant, surviving for several years under appropriate conditions, seedlings need not establish every year. However, stands are often sparse from insufficient moisture or excessive competition during the initial establishment period. Established plants, even in sparse stands, typically produce sufficient seed over two or three years to considerably enhance carpon desmodium stands through chopping during a favorable, wet year. Since the additional plants obtained from chopping sparse carpon desmodium stands can be expected to survive for a period of years rather than just a single growing season as with aeschynomene, forage production in the year of plant establishment is less critical. Thus chopping as late as August or September in south Florida can result in increased carpon desmodium stands for production in future years.

Benefits from summer legumes, especially aeschynomene and carpon desmodium, can be increased when seed supplies of these legumes existing in pasture sod are recognized as resources which can be managed for increased production.