FOR 114

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A Native Growing Season Forage for Wildlife - Teaweed, *Sida acuta Burm. f.*[1]

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What is teaweed and why would anyone want to learn more about this plant? Teaweed has been a problem plant in agriculture, but our research has found that this plant has many good qualities as a wildlife food source. Anyone interested in growing plants on his or her property that benefit native wildlife, especially white-tailed deer, turkeys and quail, can improve the wildlife habitat by managing his or her native plants. How does managing native plants improve the forage quality on your property? For example, white-tailed deer require at least 16% protein in the plants they consume to reach optimum body size and for antler growth (Cook and Gray 2003, Yarrow and Yarrow 2005). The plants discussed in this paper all meet or exceed that minimum required protein level for white-tailed deer growth and development.

Plant characteristics

Sida acuta Burm. F., commonly referred to as teaweed, ironweed, or southern side, is an erect annual and/or perennial shrub that can grow to a height of three feet. The stems are woody, branching several times, and it has a well developed tap root. The leaves of teaweed are lance to rhomboid-shaped with serrated margins. Teaweed has small yellow flowers that can be solitary or growing in pairs in the leaf axils (Murphy et. al 1996). One plant can produce hundreds of seeds throughout the growing season. Teaweed or ironweed is considered a "weed" in agriculture, that reduces crop production; and it is not recommended for planting near agricultural fields.

Teaweed ranges from South Carolina throughout Florida and west into Mississippi (Murphy et. al 1996). The growing season starts in late spring and lasts until frost. Teaweed grows in dense stands along highways, agricultural fields, and the edges of forested lands. The seeds of teaweed disperse easily by adhering to clothing, fur and other fibrous materials, or moving on machinery or vehicles. Teaweed has several positive attributes that include drought resistance and adaptability to a wide variety of soil conditions. It is a native perennial plant that can tolerate heavy browsing by animals. Upon examining several wildlife management books and plants beneficial to wildlife, *Sida acuta* was not mentioned. The positive aspects of teaweed stimulated our interest in this native plant as a potential forage species.

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All chemicals should be used in accordance with directions on the manufacturer's label.

Benefits of teaweed

The real benefit of teaweed is that it can be combined with clovers to create a year long source of forage. Teaweed seeds are not readily available for purchase but you may already have teaweed on your property. Check out the photos of teaweed and you may recognize this plant (Figure 1). Additional photos and information can be viewed at the following Web site: http://www.plantatlas.usf.edu/synonyms.asp?plantID=2753.

Figure 1. Top left is teaweed 60 days after germination; top right is teaweed in flower and setting seed pods; bottom left shows the amount of browsing that has occurred on this teaweed plot - note the difference in the plant height outside of the enclosure; and bottom right is an enclosure being collected to provide total growth and nutrient levels. Credits: Photo: Rick Williams and TIm Baxley

To study the potential forage yield and quality of teaweed, we established 1-acre plots of teaweed with 6.5 lbs. of seed and 25 lbs. of crimson clover (*Trifolium incarnatum).* Plots were fertilized at 100 lbs. per acre with a 4:12:12 (nitrogen, potassium, and phosphorus fertilizer. Plots were established near Lottie, Alabama, and Allentown, Florida.

An enclosure over the teaweed demonstrated that deer will feed on this plant. On our study sites, deer consumed 2,565 lbs. per acre of green weight or about 1,161 lbs. per acre of dry weight. A look at the photo (Figure 1) with an enclosure shows the difference in browsed plants (outside the enclosure) to plants that had no browsing by deer (inside the enclosure). Table 1 shows the growth and browse on teaweed over two years. Growth amounts varied from 387 lbs. per acre to over 5,130 lbs. per acre. Consumption varied as well, with browsing amounts ranging from 193 to over 1,800 lbs. per acre. Deer foraged between 30 and 80 percent of the teaweed depending upon the time of year. The amount of browse varied throughout a given year and between years as well.

The crude protein of teaweed averaged 24.5%, with 76% total digestible nutrients. Even on areas not fertilized, teaweed had over 16% crude protein. On an additional site, teaweed plants also responded to applications of ammonium nitrate fertilizer. Each 100 pounds of ammonium nitrate fertilizer raised the crude protein content of teaweed about 3% (Figure 2). Total digestible nutrients remained about 75% at all levels of fertilization.

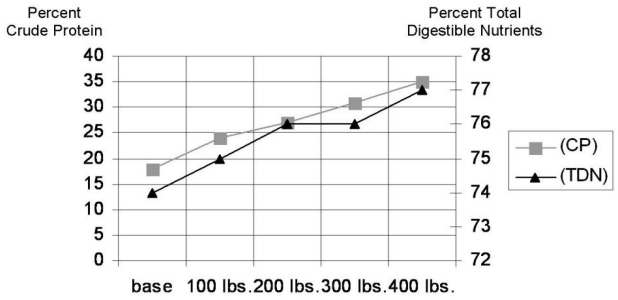

Figure 2. Teaweed response to ammonium nitrate fertilizer (base = no fertilizer up to 400 lbs of fertilizer per acre).

We compared the crude protein and total digestible nutrients of teaweed plants with perennial peanut, alfalfa, and Osceola clover grown at the same location (Figure 3). All of these plants had high levels of crude protein and total digestible nutrients that more than exceed the amount necessary to support white-tailed deer protein requirements (Ross 2004). Perennial peanuts and iron clay peas can be planted as warm season forage plots. Perennial peanuts usually take a few years to become fully established on the site, but once established provide very good forage for wildlife and domestic livestock as well. The areas planted with perennial peanuts can be top-seeded with clover to make a year-round food plot. Iron clay peas need to be planted annually. The clay peas can follow the fall forages that are fading in the heat of spring and summer. The clay peas and fall plantings can generate a year round food plot providing good nutritional forage for wildlife;

however, these plants require quite a bit of effort in preparing the area and planting each year.

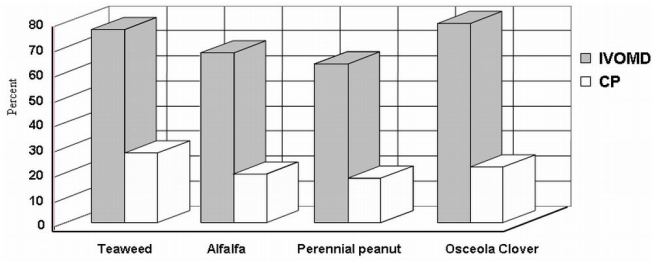

Figure 3. Average percent of crude protein (CP) and total digestible nutrients (IVOMD).

Another benefit is that teaweed is higher in calcium and phosphorus than common forages such as iron clay peas, alfalfa, and soybeans (Figure 4). Calcium and phosphorus are two of the most important minerals in a deer's diet and are necessary for bone and antler growth (Yarrow and Yarrow 1999). These minerals also are important for milk production, muscle contraction, efficient digestion, and general metabolism (Cook and Gray 2003).

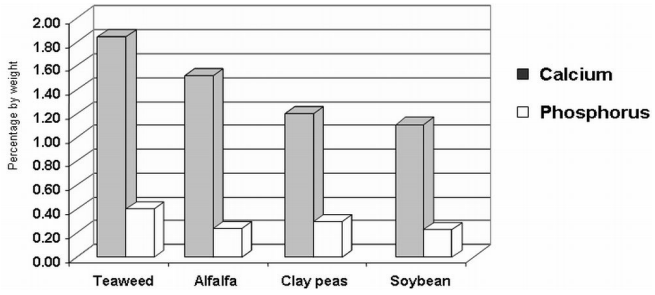

Figure 4. Calcium and phosphorus levels in several forages.

Managing teaweed

A teaweed plot, where available, should be protected and enhanced because teaweed is a good source of nutrition already growing on the site. Teaweed is also less intensive to manage and maintain compared to other forages as teaweed reseeds itself every year. Teaweed can be top-seeded in the fall with Crimson clover to create a year round food plot that exceeds the 16 % crude protein level required for good nutrition of white-tailed deer and it does not have to be replanted each year. To maintain an area with teaweed, periodic mowing or light disking can be done and teaweed can be sprayed with Fusilade herbicide to control competing grasses.

What should landowners or managers do if they want to improve forages on their property?

Determine which species of animals or birds you want to target.

Talk with your county extension agent, Florida Fish & Wildlife Conservation Commission biologist, or other natural resource professionals in your area for their recommendations and suggestions.

Find out what native plants are already in place that could be enhanced to meet your goals.

Determine what improvements or plantings are needed to enhance your property and meet your wildlife management objectives.

Conclusions

From our work at the West Florida Research and Education Center located near Jay, Florida, and several locations in southern Alabama, *Sida acuta* was identified as a native plant that provides food and/or cover to several species of wildlife. Some wildlife species like deer use teaweed as forage; however, other wildlife species like bobwhite quail, rabbits, and young turkeys use areas with teaweed for hiding cover and food. Teaweed is drought tolerant, browse tolerant, native, benefits several species of wildlife, and it is perennial. Check around on your property as excellent food sources for wildlife may already be present.

Literature Cited

Cook, C. and B. Gray. 2003. *Biology and management of white-tailed deer in Alabama*. Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries. 175 p.

Murphy, T. R., D. L. Colvin, R. Dickens, J. W. Everest, D. Hall and L. B. McCarty. 1996. *Weeds of southern turfgrasses*. SP79. University of Florida, Cooperative Extension Service and Institute of Food and Agricultural Sciences publication. 208 p.

Ross, Matt. 2004. Seasonal protein requirements of white-tailed deer. *Whitetail Stewards*. 2 p.

Yarrow, G. K. and D.T. Yarrow. 1999. *Managing wildlife on private lands in Alabama and the Southeast*. Alabama Wildlife Federation. Sweetwater Press. Birmingham, AL. 588 p.

Yarrow, G. K. and D. T. Yarrow. 2005. *Managing wildlife on private lands in Alabama and the Southeast edited by Dan Dumont*. Alabama Wildlife Federation. Sweetwater Press. Birmingham, AL. 588 p.

Table 1. Production and browse rates on teaweed.

Location*	Date	Production	Browse	Utilization
Plot A3	Summer	387	193	50%
Plot A3	Fall	2759	1839	67%
Plot A3	Combined	3146	2032	65%
Plot B1	Fall	387	339	88%
Plot B1	Summer	5130	2275	44%
Plot B1	Combined	5517	2614	47%
Plot A4	Fall	3969	1162	29%
Plot A4	Summer	1113	968	87%
Plot A4	Combined	5082	2130	42%

*Plots A3 & B1 are located in Lottie, Alabama and Plot A4 is located near Allentown, Florida.