

Comparing Fall Food Plot Blends for Deer: 2006 Update¹

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Sportsmen have made fall food plots popular as a method to increase the amount of deer and other wildlife using a known area. Besides being an asset for monitoring deer on a given piece of property, forages produced in the fall are important for

providing nutrition for weaned fawns that are still growing

providing energy deer need to prepare for winter

replacing energy lost during the rut or breeding period

providing female deer adequate nutrition while they are pregnant

providing a source of food for wild turkeys, quail and non-game wildlife species.

At the University of Florida's West Florida Research and Education Center, we select and test forage species and mixtures for fall planting that are similar to those available to area sportsmen. The plantings allow us to evaluate forage production (pounds per acre) and nutritional quality.

The steps that were followed for preparing the fall 2005 food plots are applicable on most other properties. First, a soil sample was taken in the field where the fall food plots were going to be planted to check the pH level of the soil. If the soil pH is low, then the second step is to apply lime to the area based on the recommendations from the soil analysis. In planting food plots, failing to maintain an appropriate lime and fertilizer regime results in wasted money and crops that do not produce very well (Cook and Gray 2005).

Raising the soil pH level to between 6.0 and 7.0 enables plants to use a larger percentage of the available soil nutrients such as zinc, magnesium, and iron, as well as nitrogen, phosphorus, and potassium (Table 1). Most forage plants do well when the pH level ranges between 6.0 and 7.0.

Ideally lime needs to be applied 2 to 3 months before the site is to be planted. However, lime can be applied when you are disking the site to prepare for planting.

The third step is to apply fertilizer and disk the site to prepare for planting. When the site is disked, with bare soil exposed, the area is ready to plant. The fourth step is to plant the forages at the recommended

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Table 1. Percentage of soil nutrients available to plants by pH levels.

Soil Acidity	Nitrogen	Phosphorus	Potassium
Extremely acidic 4.5 pH	30	23	33
Very strong acid 5.0 pH	53	34	52
Strongly acid 5.5 pH	77	48	77
Medium acid 6.0 pH	89	52	100
Neutral 7.0 pH	100	100	100

rate on the label. Exceeding recommended planting rates will cause the food plots to be less effective due to the overcrowding of the plants. Don't forget to inoculate clover seed and other legume seeds before planting. Inoculation of seeds with the proper mixture of *Rhizobium* bacteria facilitates nitrogen-fixation and allows nitrogen to become available for plant growth (Yarrow and Yarrow 2005). Directions for mixing the inoculants with the legume seeds will be located on the bag. At the research station we put our clover seeds in a large bucket and poured some soft drink over them to make them damp. Inoculum will stick better to seeds that are dampened in this manner.

The fifth step is to lightly disc or drag the area after planting to cover seeds slightly with soil. You do not want these seeds planted too deep as many of the seeds are very small (Figure 1).



Figure 1. Packing the seeds into the soil after planting.
Credits: Photo: Rick Williams and Tim Baxley.

For our 2005 fall food plots, we put out 1 ton of lime and 300 pounds of 5-10-15 fertilizer per acre at a cost of \$72.41 per acre. If you are planting only a 1/4 or 1/2 acre food plot your cost will be lower. Lime and fertilizers can be purchased by the bag if the area being planted is not very large. However, if several acres are being planted or your club is planting

multiple food plots, a bulk purchase of lime and/or fertilizer is more cost effective.

During the fall of 2005 rainfall did not occur on a regular basis and we delayed planting the fall food plots until the soil received some moisture in an early November rainfall. Planting can occur much earlier in the fall if soil moisture is available. The best time to plant is between September 15 and October 15 after a rainfall so that there will be enough moisture in the soil for the seeds to germinate (Yarrow and Yarrow 2005). Without good moisture, seeds are likely not to germinate and the food plot ends up with less forage production or may possibly be a failure. Table 2 shows the food plot blends planted in 2005 along with the appropriate seeding rates and the cost of that seed. Remember that site preparation will increase plot establishment costs.

When planting was completed, wire enclosures were immediately set out to provide an area on each food plot where animals could not browse on the plants. The area inside the enclosure was used to show how much forage grew on the area and that value was converted to total pounds or tons per acre. The area outside of the enclosure where animals could eat the plants provided a measure of the amount of forage consumed.

The results of the 2005 fall plantings are shown in Table 3. All of the forages had high levels of protein and were very digestible plants as shown by total digestible nutrients (TDN). Deer nutritionists generally agree that a diet containing 16 – 20% protein is more than adequate to support deer protein requirements (Ross 2004). These protein levels are much higher than a maintenance level of 6 – 10% for white-tailed deer. Thus, any of the forages listed below exceed deer requirements for protein. However, the amount of forage a deer needs to

Table 2. 2005 Fall food plot blends, rates and approximate costs.

Seed Blend	Seed lbs./1/3 ac.	Cost of seed per 1/3 ac.	Seeds - Pounds per acre	Cost of seed per acre
Big Buck Blend with Rack Max	33.3	\$11.18	100	\$34.00
Ragan & Massey Fall Wildlife Mix	33.3	\$11.18	100	\$34.00
Crimson Clover	8.3	\$8.25	25	\$25.00
Tecomate Max Attract 50-50	13.3	\$13.19	40	\$40.00
Plot Spike Forage Feast	26.6	\$13.49	80	\$40.00
Osceola Clover & Tecomate Chicory Mix	6.3	\$15.83	13	\$48.00
Biologic Clover Plus	3	\$19.79	9	\$60.00
Imperial Whitetail Extreme	7.3	\$32.38	22	\$98.00
Biologic New Zealand Max	3	\$19.80	9	\$60.00
Austrian Winter Peas	11.6	\$4.50	35	\$14.00
T & W Blend	16.5	\$10.85	49	\$33.00
Osceola Clover	2.6	\$9.57	8	\$29.00

consume in a day may not be met by food plot production. On average, deer eat four to six pounds of forage daily for each 100 pounds of body weight (Cook and Gray 2003).

The best early producers of forage were seed blends containing oats, wheat, rye and/or rape (brassicac). These plants start growing shortly after planting and produce a lot of growth in a short period of time. The seed blends in the above list containing these plants included: Big Buck Blend, Ragan and Massey, Biologic New Zealand Max and T & W Blend. Tecomate Max Attract, Plot Spike, Crimson Clover, and Biologic Clover Plus also had good early production and these blends lasted well into the spring of 2006 providing over 6 months of nutrition. These seed blends have a mix containing some type of cereal grains (oats, wheat, etc.), clover, and rape or chicory. Tecomate Max Attract, Osceola Clover & Tecomate Chicory Mix, Imperial Whitetail Extreme, Austrian Winter Peas and Osceola Clover Mixes were still growing and being used by deer on June 1, 2006. These forages were very good late season blends that can possibly grow well into the spring and possibly summer with adequate rainfall.

The spring of 2006 was very dry in the panhandle of Florida. Even with the poor growing conditions due to lack of water, the fall 2005 food plots did very well. Most of the forages had slight decreases in their crude protein levels compared to

the samples taken in March. However, crude protein levels and digestibility of these forages still exceeded the nutritional needs of white-tailed deer. The seed blends marked with an asterisk in Table 3 would have lasted into the summer but the area was disked to plant soybeans. The seed blends lasting into June contained some variety of white clover, chicory, and alfalfa and/or Austrian Winter Peas.

Deer fed on most of these forages from the time the plants started growing until the food plots were disked in preparation for summer plantings. Chicory starts growing in the spring and continues growing throughout the summer. Deer did not start feeding on the chicory until mid-spring. Austrian Winter Peas are used by deer when the peas start blooming and setting peas in the late spring which is great for does preparing for fawns and bucks recouping from the rut. Bucks need a diet of at least 16% protein for optimum antler growth (Cook and Gray 2003). Does with fawns and bucks recouping from the rut are two important considerations when establishing food plots in the fall. Forages that produce throughout the fall and winter and in addition last well into the spring provide real benefit to the deer using them as a food source. Thus, Austrian Winter Peas, chicory, and white clovers, while not heavily used during the fall and winter hunting season, provide real biological benefits to deer feeding on them in the spring (Figures 2 and 3).



Figure 2. Austrian Winter Peas over 3 feet tall in an enclosure in May. Credits: Photo: Rick Williams and Tim Baxley.



Figure 3. Chicory in an enclosure. Note that you do not see it outside of the enclosure because deer have been feeding on it. Credits: Photo: Rick Williams and Tim Baxley

Food plots can create nutritious feeding areas for wildlife as well as locations that enhance landowner enjoyment of the outdoors. Any of the forages we planted exceeded the nutritional levels of white-tailed deer; however, some blends produced a lot more pounds per acre which translates to more nutritious food on the same area of ground. Cost is another consideration and Table 2 provided a guide to the amount of money we spent on each seed blend mixture, but did not include the site preparation costs. Another important consideration for food plots is that increasing the number of deer that use an area will generally require 3 -5% of the land being in food plots. Otherwise, if deer populations tend to be high, they may overbrowse the plots before the forage has time to develop sufficient biomass.

Food plots are enjoyable to the sportsman and can provide a real benefit to animals that use them. If

you have any questions regarding food plot preparation or available forages that work in your area, contact your local county extension agent.

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Table 3. Seed blend with their associated crude protein content, total digestible nutrients, pounds per acre produced and pounds per acre consumed. (Enclosures were measured in March 2006).

Seed Blend	Crude protein percent	(TDN) percent	Pounds per acre produced	Pounds per acre utilized	Percent utilization
Big Buck Blend with Rack Max	24.8	66.9	3049	1742	57
Ragan & Massey Fall Wildlife Mix	25.11	68.3	3051	871	29
Crimson Clover	33.71	66.5	6969	6098	88
Tecomate Max Attract 50-50*	27.38	64.5	5663	3920	69
Plot Spike Forage Feast*	25.68	68.2	5660	3485	62
Osceola Clover & Tecomate Chicory Mix*	29.55	67.6	1742	436	25
Biologic Clover Plus*	23.82	65.2	2178	1742	80
Imperial Whitetail Extreme*	19.46	62.3	1742	1307	75
Biologic New Zealand Max*	19.41	66.9	2613	872	33
Austrian Winter Peas*	34.53	63.8	3920	2614	67
T & W Blend*	31.65	64.1	6534	4790	73
Osceola Clover*	27.94	63.1	1306	871	67
*These blends lasted into early summer.					