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Alternative Opportunities for Small Farms: Alfalfa Production Review¹

Compiled from information obtained from Carol Chambliss, Earl S. Horner, Charles O. Ruelke, T. D. Hewitt and John Gordon by Kathleen Ruppert²

Alfalfa has not been widely grown in Florida because seed of persistent (long-lived) varieties has not been commercially available. This deficiency has been corrected by the development of a new variety, 'Florida 77', that is resistant to the spotted alfalfa aphid and is more productive and persistent than earlier varieties released in Florida.

Alfalfa is not recommended to a grower who is not willing or able to fertilize, plant and manage it properly. It requires a good, fertile soil which is well drained. Soils which may become waterlogged or flooded for extended periods must be avoided. Those who have not had previous experience with alfalfa should plant only a small acreage the first year to determine how well it grows on their particular farms.

Marketing Situation

Alfalfa produces a very high quality forage for all kinds of livestock, but it is especially valued by dairymen because of its favorable effect on milk production. Horse owners in the state also place high value on good alfalfa hay. At the present time most of the alfalfa hay being fed

to horses and dairy cattle in Florida is imported from other states.

Alfalfa can be grazed, ensiled, used as a greenchop feed, or made into haylage (alfalfa wilted to 45 to 50% moisture and stored in air tight containers) or hay. It is used most efficiently as fresh forage and least efficiently as hay, haylage being intermediate. A desirable situation is to have both hay and haylage making alternatives so that the crop can be harvested as haylage during rainy periods. But, this involves additional expense in owning two sets of harvesting and storage equipment. Use of a large round baler and a bale wrapping machine to make round bale silage could be a possible alternative.

Alfalfa hay may be baled in large, round bales as are most grass hays in Florida. However, the market for small, rectangular bales is better in many cases. Alfalfa must be stored under a shelter, or should be protected by plastic in the field. Weathering of alfalfa hay is much more severe than with grass hays.

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Labor and Capital

Fall plantings of alfalfa in the southern coastal plain are generally ready to cut for hay during the months of March or April in North Florida. Decisions on when to cut, how to cut, and how often to cut influence the quality of the hay. Rain and drying conditions also influence the quality of the hay and must be considered in harvesting.

In 1993, establishment costs for an acre of alfalfa in North Florida totaled about \$311. This includes both cash expenses of \$258 and fixed costs of \$53. When established, an acre producing four cuttings per year will cost about \$275 plus the land costs. With a yield of 4 tons per acre the cost per ton is about \$70 while a 5 ton yield produces a cost of \$60 per ton. Prices received for alfalfa hay range from \$125 to \$175 per ton and prices received for haylage range from \$50 to \$70 per ton with both price ranges depending upon quality and market.

Harvests should usually be made at intervals of about 4 to 6 weeks during the active growing season. Delaying harvest beyond 4 weeks results in lower quality forage, a build-up of leaf disease and loss of leaves. When alfalfa is grazed, rotational grazing should be used so that plants have a chance to recover. Strip grazing makes it possible to utilize the forage more efficiently while damage to the plant stands is minimized.

At times, making haylage from alfalfa is advantageous for growers who can utilize it. Poor hay-drying weather during the rainy, summer period is not as much of a problem with haylage and more leaves and nutrients can be preserved. Alfalfa is not so easily ensiled as corn. Although alfalfa contains more protein, it does not have as high a level of soluble carbohydrates as corn. Cutting alfalfa and letting it wilt in the field to 45 to 50% moisture before chopping and storing improves haylage quality. Round bales wrapped in plastic or plastic tubes such as used with a Silopress or Ag Bagger can be a convenient and desirable alternative for storing alfalfa haylage as compared to the more permanent storage structures.

Suitability

Florida 77 is like other alfalfa varieties in that it performs best on well-drained soils that do not have highly-developed hardpans. On such soils it develops a deep root system, which makes it drought-tolerant. In general, alfalfa has a high water requirement and therefore irrigation is required in high sandy soils for maximum

productivity. Although alfalfa can experience frost damage, it will recover.

Planting Situation

The economically productive life of a stand of 'Florida 77' will depend largely on soil type, fertilization, and management. It has been possible to maintain satisfactory stands for three years on Arredondo fine sand at Gainesville. The better the initial stand, the better the chances that an adequate number of plants will survive for three years or more.

Careful attention must be paid to the lime and fertilizer requirements of alfalfa if the crop is to be a success. Lime should be applied before land preparation. A pH of 6.5 to 7.0 in the top 6 to 10 inches is necessary for good production. Generally, the fertilizer should be applied in split applications, half in the fall and half in the spring. The micronutrient requirements of alfalfa also require attention (particularly boron).

Alfalfa should be planted early in the fall to insure establishment of the stand before the first frost. In north Florida it should be planted between September 15 and November 1. The seed must be inoculated just before planting with a fresh supply of the alfalfa-sweetclover cross-inoculation group of bacteria; on sandy soils, double the amount recommended on the package should be used. Ten to 13 lbs of seed per acre should be drilled in rows 6 to 10 inches apart, using a grain drill equipped with a forage seeding attachment and press wheels. The seed should be placed at a depth of 0.6 to 0.8 inch, and the soil should be firmly packed. If drills are not available, the seed may be broadcast, harrowed in lightly, and cultipacked. With this method, about 18 to 22 lbs per acre are required because much of the seed is placed either too deep or too shallow.

Cultural Program

Insects may be a serious problem in alfalfa during the spring and fall growing seasons. It is necessary to check the fields frequently, because some insects can build up rapidly and cause much damage within a few days. Several diseases caused by pathogenic fungi can affect the foliage, crown, and root system of alfalfa in Florida, but no control by use of fungicides is recommended.

Use of herbicides may be necessary to control warm season grass and broadleaf weed species during seedling establishment, particularly with early seedings in a warm

fall. Wild mustard or wild radish can also be a problem during the winter after seeding. After the plants have reached bloom stage, however, a good stand of well-fertilized alfalfa will compete successfully with most weeds because it recovers quickly after harvest and grows faster than the weeds. It is especially important to avoid applications of herbicides at rates higher than recommended. Also, a potential alfalfa producer should be sure to determine what and when herbicides have been used on the acreage previously to see if the same herbicides are compatible with alfalfa.