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Appendix B

SARE Project LS94-63

Regional Center for Sustainable Dairy Farming

**1995 Report
for
North Carolina A&T State University
Greensboro, NC 27411**

Prepared by

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Through its collaboration in the Regional Center for Sustainable Dairy Farming, North Carolina A&T State University seeks to convert its current dairy operations to a system of forage-based milk production, maximizing both forage production and utilization through controlled grazing, and seasonal calving. Progress towards this objective is as follows:

Pasture Development and Renovation

Ten acres of existing fescue pasture were subdivided and cross-fenced into five (2 acre) paddocks. The five fescue paddocks will be grazed extensively during the Spring and Fall months of the year, capitalizing on the rapid growth of fescue grass during these cool seasons.

Eight (8.1) acres of cropland were converted to pasture, planted in alfalfa and fertilize with 0-24-24, including borax, on October 12, 1994. Of the eight acres, approximately three and one-half (3.6) acres were planted in Pioneer 5454 and 4.5 acres in Alafagraze 1-102087, a hay and grazing type of alfalfa, respectively. The alfalfa was incorporated into the forage program to provide both a source of summer grazing and hay production. Twenty-one (21) round bales and 571 square bales of hay were cut and harvested from the pasture in 1995. The eight acres were cross-fenced and subdivided into four (2 acre) grazing paddocks at the end of summer.

Two (1.9) acres of fescue pasture were renovated, subdivided into two grazing paddocks and designated for summer grazing. Two failed attempts were made to establish a permanent stand of Caucasian Bluestem. Since a quality stand of the warm season grass could not be established, a decision was made to plant the field in a summer annual, such as pearl millet or sudex (sorghum sudan). The millet or sudex will be planted and grazed, in addition to the alfalfa, during the summer months. In September '95, the two paddocks were planted in rye to provide late fall and winter grazing.

Each fall, the millet/sudex pasture and several acres of fescue will be overseeded in rye to provide winter grazing for the milking herd. Dry cows will be maintained on stockpiled fescue and hay.

Fences and Lane Construction

A cattle lane was constructed to allow access to grazing paddocks from the lounging barn/feed bunk area. The lane was constructed using crosol posts and a double strand of electrified high-tensile (steel) wire. A fine stone (crush and run) gravel was applied as a base, within the lane, to help maintain its structure and to insure good footing for the cattle.

Pasture were subdivided into eleven (11) grazing paddocks and cross-fenced

using a single strand of electric wire. Paddock and lane gates were constructed, as well, with a single strand of wire.

Watering System

To facilitate the delivery of water to animals while on pasture, a new watering system was installed for the 20 acres of pasture under controlled grazing. Permanent water lines were trenched within the eleven (11) grazing paddocks.

Six, above ground, cattle waters were purchased and installed in the fescue (4) and summer annual (2) pastures. Within the alfalfa paddocks, two water hydrants were installed, below ground, to supply water to portable livestock water tanks. As animals are rotated among the 4 alfalfa paddocks, the water tanks will be emptied and relocated to insure a constant supply of water.

Seasonal Calving

In effort to move towards summer calving, cows calving during the late spring and summer were held and rebred in October-November '95. Thirteen (13) mature heifers were synchronized (using prostaglandin) and bred in October for July '96 calving. To assist our dairy in its conversion to a summer calving program, six Jersey cows that calved in late spring were transferred to our milking herd from North Carolina State University. Two of the cows died of acute health conditions soon after their arrival.

By slowly converting the existing milking herd to one which calves during the summer, we are hopeful of matching the herd's dry period (June - August) with the farm's peak labor demand for the harvesting and storage of hay and corn silage. Similarly, the herd's milk production would peak during the academic school year allowing for maximum utilization of the dairy herd and pasture management program in instructional programs.

Budget

Of the \$13,500.00 subcontracted to North Carolina A&T State University for purposes of this project, approximately \$4,562.30 have been spent on work activities relating to pasture development and renovation, installation of watering system and the construction of cross fences and cattle lanes. There remains approximately \$8,937.70 in the project's account which will be expended over the next 2 years.