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SOUTHERN FOREST EXPERIMENT STATION

U.S. FOREST SERVICE RESEARCH NOTE

Forest Service, U.S. Dept. of Agriculture

T-10210 FEDERAL BLDG. 701 LOYOLA AVENUE NEW ORLEANS, LA. 70113

GRAZING POTENTIAL OF LOUISIANA PINE FOREST-RANGES

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Louisiana's 5 million acres of pine forest-range have an estimated forage potential for 135,776 yearlong cow-calf units. Two-thirds of the units can be sustained on loblolly-shortleaf pine ranges; the rest, on longleaf-slash pine ranges.

ADDITIONAL KEYWORDS: Animal unit months, cow-calf units, forage potential, understory herbage.

Grazing cattle on pine forest-ranges may offer some Louisiana cattlemen an alternative to paying rising feed grain prices. Most projections indicate strong future export demands for grain and continued upward pressures on feed prices (Hodgson 1974). By providing readily available forage, herbage understories on pine ranges can help to reduce ruminant livestock production costs.

Louisiana now has 5,096,000 acres of pine forest-range (Earles 1975). An important question for land managers and agricultural policymakers is, what is the grazing potential of this range under prevailing timber management practices? To help answer the question, a special range analysis was undertaken in 11 southwestern parishes[2] during the recent statewide timber inventory (Sternitzke and Pearson 1974). Information was evaluated from more than 3,000 sample plots that were systematically distributed over a test area of some 7 million acres.

In the parishes sampled, annual herbage production on longleaf-slash pine range is about 1,529 pounds per acre, and an average of 24 acres are needed for yearlong grazing of one animal unit (a mature cow with calf or their equivalent). Loblolly-shortleaf range produces about 816 pounds per acre, and 44 acres are needed for grazing one cow-calf unit. Fewer acres are needed in open stands than in dense ones. In pine stands classified by the Forest Survey as fully stocked with trees, only 1 in every 3 acres had herbage cover on at least half of the site. In understocked stands, 2 acres in 3 were at least half covered with herbage. Under dual beef-timber management strategies, density of the overstory is clearly a critical factor.

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[2] Allen, Beauregard, Calcasieu, Evangeline, Grant, Jefferson Davis, La Salle, Natchitoches, Rapides, Sabine, and Vernon.

The most plentiful native forage grasses are the bluestems (table 1), and they also are the most valuable as foodstuffs. The panicums are second to the bluestems in abundance and desirability. On loblolly-shortleaf forest-ranges, uniola, a cool season plant (Leithead, Yarlett, and Shiflet 1971), is particularly important in that it provides considerable forage in winter.

Table 1.—*Botanical composition (%) of understory herbage by type of pine forest-range*

Understory[1] herbage	Longleaf-slash pine	Loblolly-shortleaf pine
Slender bluestem	9.4	3.3
Broomsedge bluestem	7.0	3.2
Other bluestems	14.0	15.7
Panicums	17.6	13.4
Uniolas	.4	8.0
Carpetgrass	4.2	4.8
Threeawn	2.7	2.4
Cutover muhly	3.8	2.0
Other grass	10.3	12.4
Grasslike	8.0	8.0
Legumes	5.5	7.0
Other forbs	17.1	19.0
All herbage	100.0	100.0

[1] Based upon sample of 11 southwest Louisiana parishes.

An animal unit month (AUM) is the amount of feed or forage required by an animal unit for 1 month. In the southwestern parishes, the 737,900 inventoried acres of longleaf-slash pine had a forage potential of 376,187 animal unit months each year; the 1,574,600 acres of loblolly-shortleaf pine had a potential of 428,-326 AUMs. Projected statewide, these data indicate that 135,776 cow-calf units could be grazed yearlong on Louisiana's pine forest-range. About 15 percent of the projected total is in the Florida Parishes; the rest is on ranges west of the Mississippi River.

Besides the acreage currently in pine, Louisiana has 3,722,700 acres of potential pine sites that are dominated by hardwoods. These stands are a serious hindrance to forest-range grazing (Campbell and Peevy 1945). Existing markets cannot profitably absorb the tremendous supply of low-quality hardwoods from these sites, and outright disposal is often costly (Murphy and Knight 1974). New techniques of utilization may open markets for a significant portion of this hardwood inventory and give impetus to converting the stands to pine, but the potential yields for timber and range livestock are generally not being realized at present.

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