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Chapter 15

EXTENSION EDUCATION IN FORAGE

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EXTENSION EDUCATION IN FORAGE

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A series of educational activities is the foundation for widespread adoption of forage technology.

The Texas Agricultural Extension Service has statewide responsibility for educational programs in agriculture, 4-H, home economics and resource development. Forage research conducted by the Texas Agricultural Experiment Station is basic for Extension forage education programs. "Research advances knowledge; education advances progress" is appropriate to development of Texas' forage industry. Increasing forage profits through improved production, quality and utilization is the major thrust of Extension forage programs.

LOCAL "GRASS ROOTS" EFFORT

Program building committees in each county are composed of individuals representing the major agricultural, industrial and other interest in each county. The forage committee meets periodically to identify opportunities for improving forage income and to plan educational activities best adapted to help forage producers reach their potential. The County Extension Agent coordinates these plans with those of other committees into an effective county educational program for all economically important agricultural commodities.

The County Extension Forage Educational Program is the foundation for an effective statewide forage educational effort. In addition to state Extension forage specialists, an area Extension forage specialist or area Extension agronomist

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headquartered in each Extension district provides leadership for forage educational programs in the area. The 254 counties are grouped into 14 Extension Districts for administrative effectiveness. The counties making up the 14 Extension Districts of the Agricultural Extension Service are shown in Figure 15-1.

IMPROVED PASTURES THROUGH EDUCATION

Most pasture soils (as differentiated from rangeland) in Texas are former cropland soils. The pasture soils are low in native fertility. Many have been severely eroded, resulting in a low moisture-holding capacity. Forage grown under these conditions is generally low-yielding and of low quality, and the species usually lack potential for high production and quality. Weeds also invade many of these acres because of their greater ability than grasses to obtain soil nutrients. Extension education to improve forage production and profits emphasizes fertilization, liming, soil testing, adapted grasses and legumes, winter pastures, forage testing, forage quality, timely utilization, hay and silage production, efficient livestock, and other management aspects.

Five major methods are used by Extension personnel in educational efforts for disseminating forage information:

1. Publications on various aspects of forage production and utilization. Publications provide an effective medium for distribution and a ready reference for forage. Guidelines for pasture production and utilization have been developed and emphasized in "Keys to Profitable Permanent Pasture Production" for five areas of Texas, delineated on the basis of climatic conditions. The production guidelines contain specific and precise descriptions of the latest information for each practice, based on research and local result demonstrations. Timely practices to achieve desirable growth and quality are emphasized. Leaflets on popular grasses show the area of adaptation and list practices for establishment and production of the species. Publications on other aspects of pasture, hay and silage production have been developed (Figure 15-2).

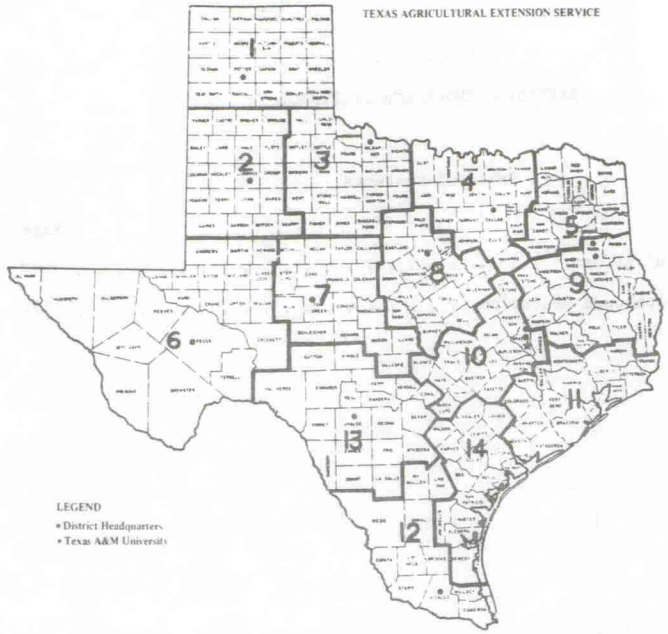

Figure 15-1. Counties with similar soil, climatic, and agricultural production are grouped into 14 Extension Districts.

2. Demonstrations to "show" the advantages of new technology. In 1903, Dr. Seamann A. Knapp, the father of Extension, said "What a person hears he will doubt; what a person sees, he may doubt; but what a person does, he cannot doubt." Result demonstrations have been fundamental to Extension efforts in important forage-producing counties to provide local evidence of superior benefits of new forage technology. Demonstrations are marked with signs to encourage producers to make periodic observations and evaluations. Results of the practice, with an economic analysis, are printed in the annual county result demonstration handbook and distributed to producers, industries, and others interested in forage development. Major demonstration emphases in recent years have included forage fertilization, timely utilization, hay production, weed control, and adapted species. Because of escalated

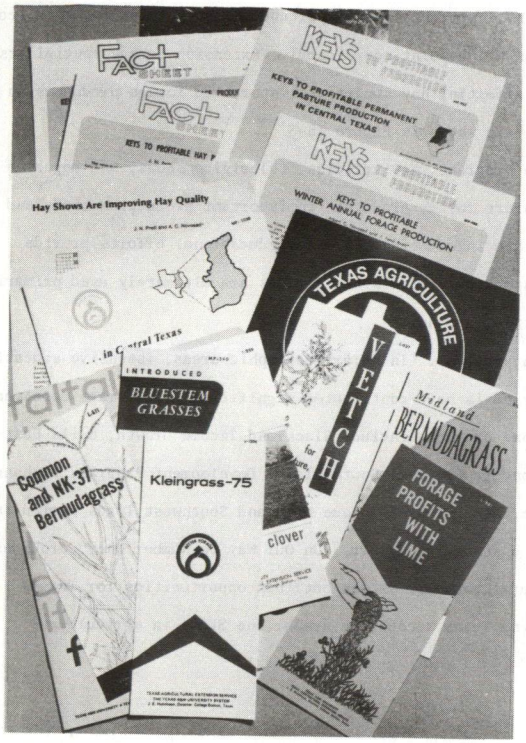

Figure 15-2. Publications are effective for providing specific descriptions of forage production practices.

interest in legumes throughout Texas, 76 legume variety demonstrations were established in fall 1975 to show the adaptability of various legumes throughout the State.

Pasture demonstrations to show examples of forage systems have been widely accepted among producers, industries, and professional agricultural leaders. The Texas Plant Food Institute has co-sponsored pilot pasture demonstrations to incorporate the most profitable forage practices into a forage system adapted to specific areas of Texas. For example, the Wood County pasture demonstration is 30 acres; 10 acres are planted each fall to rye and ryegrass; clover is seeded on Coastal bermudagrass.

Extension economists show the expenses and returns for a 4-year period in Table 15-1. Although fertilizer prices were high and cattle prices low during 1974-75, the pasture showed a $19.32 per acre return above all expenses.

Table 15-1. Income and Expenses, Wood County Pasture Demonstration, 30 Acres, 4 years. 1971-75.

Item	Amount per acre			
	1971-2	1972-3	1973-4	1974-5
Income				
Calves	$187.19	$314.08	$168.44	$135.36
Cull cows		21.58	9.66	15.81
Hay	9.20	21.47	21.56	38.06
Total Income	196.39	357.13	199.66	189.63
Expenses				
Hay Fed	4.77	13.01	9.80	4.60
Minerals & salt	.53	.53	.89	1.05
Feed		5.07		5.91
Veterinary supplies	.80	.62	.99	.85
Fertilizer				
Coastal, clover-ryegrass, rye and ryegrass	38.95	32.37	31.37	41.31
	11.62	14.48	17.27	30.54
Lime	4.83	9.67	8.50	
Seed				
Clover and ryegrass	5.73	5.49		
Rye	2.97	5.38	3.15	4.11
Weed control	.50		.83	.43
Tractor and equipment	5.03	1.50	3.15	3.93
Herd replacements		40.00	15.00	22.93
Bull costs	5.00	8.27	9.33	9.33
Interest on operating capital		6.39	5.02	8.45
Total Operating Expenses	80.73	142.78	105.30	140.87
Returns Above Operating Expenses	115.66	214.35	94.36	48.76
Land charge	6.00	10.00	10.00	10.00
Depreciation	1.44	1.44	1.40	1.44
Interest on cows		18.00	21.00	18.00
Returns Above All Expenses	108.22	184.83	61.96	19.32

The Tennessee Valley Authority provides limited amounts of fertilizer at educational prices for demonstration farmers. Results of 6 years of pasture demonstrations in Bastrop County have shown that sufficient forage can be grown on each acre to permit a stocking rate of one cow and calf throughout the 365-day season. Extension economists have shown that intensive pasture production is profitable, especially

when calf prices are above $0.30 per pound, with fertilizer and other production inputs at normal prices.

In Extension District 10 (South Central Texas), 29 forage producers initiated intensive pasture demonstrations which they called the District 10 "Pasture 500" Program. The objectives of the demonstration were (1) to keep accurate records of expenses and returns and (2) to grow enough forage on each acre for producing 500 pounds of beef per acre. Many of the demonstrators produced more than 500 pounds of beef gain per acre, with profits of upwards of $100 per acre.

3. Educational meetings, such as shortcourses, tours, workshops, and other types of group activities. Pasture tours provide opportunities for forage producers to observe firsthand and to evaluate the practices shown in pasture demonstrations. Pasture shortcourses - usually held 3 or 4 consecutive nights - provide intensive instruction to share latest research and demonstration findings for maximizing forage income.

Hay shows are a popular and effective method of encouraging quality hay production. Hay shows have been conducted in more than 100 counties in Texas, with approximately 60 counties sponsoring a hay show each year. Results of several years' hay shows in one county reveal that protein content of hay samples has increased to 12.7 percent

Figure 15-3. At a County Hay Show, forage and livestock producers learn ways to produce better quality hay.

(the Statewide average is 7.1 percent) and 78 percent of the entries received scores of 85 points or higher (on a 100-point score card). Extension forage specialists pointing out the factors affecting hay quality to interested forage producers in a typical County hay show are shown in Figure 15-3.

4. Mass Media. Radio programs, new articles, television shows, and magazine articles have helped to alert forage producers to important production needs and the availability of specific information. Similar educational efforts provide special emphases in livestock nutrition since forages are ultimately used primarily by beef cattle, dairy cattle, and horses.

5. Area income growth programs. In major geographic areas, intensive educational efforts on a multi-county basis have contributed significantly to forage development in each area. Area income programs include Blackland Income Growth, Build East Texas, Rolling Plains Economic Program, South Plains Development Program, Panhandle Economic Program, Greater Agricultural Income Now, and Southwest Texas Agricultural Resources. In addition, a statewide effort, "On Our Way to Number One," provides stimulus to all agricultural commodities and outlines opportunities for Texas forage producers in helping Texas become the number one State in agricultural income.