



Florida Cooperative Extension Service

1994 BEEF FORAGE SURVEY RESULTS¹

Glenn D. Israel, Carrol Chambliss, William Kunkle, Robert Sand, and J.S. Renau²

INTRODUCTION

The 1994 Beef Forage Survey was conducted in 43 Florida counties representing all geographic regions of the state. Previous beef forage surveys—conducted in 1982, 1986, and 1990—were limited to south central Florida and included only nine counties; other regional surveys have also been conducted by county Extension faculty in the past. The 1994 survey instrument (questionnaire) was developed by county Extension faculty and state Extension specialists in conjunction with the UF/IFAS Program Evaluation and Organizational Development (PEOD) unit. Leaders of the FL102 (Forage Production for Livestock and Dairy) and FL103 (Improving the Production, Efficiency and Marketability of Beef Cattle in Florida) state major program design teams will use the survey results to plan educational programs that meet producers' needs better.

The 1994 Beef Forage Survey was completed by 459 producers, of which 95 percent indicated that they were involved in the cattle industry as an owner, a manager, or an operator. The remaining 5 percent responded that they were involved in other capacities.

CHARACTERISTICS OF BEEF OPERATIONS

This section of the survey obtained general information regarding the respondents and their cattle operations. The survey uncovered that over three-fourths of Florida beef cattle producers/owners ran strictly commercial operations, meaning that their major objective

was the production of calves for feedlots and eventual slaughter for meat. Conversely, a relatively small number of respondents, under 10 percent, ran strictly purebred operations, or seedstock operations that produced breeding animals for other cattlemen to use. A slightly larger percentage of operators ran both purebred and commercial operations (Figure 1).

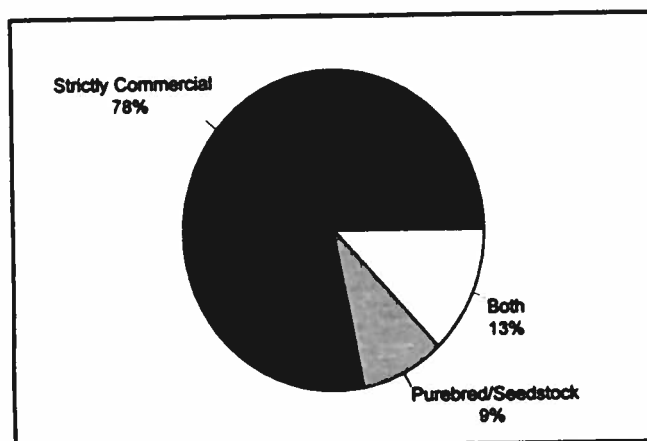


Figure 1. Distribution of commercial and purebred beef operations.

Many cattle producers in Florida have other occupations. Only 46 percent of the respondents indicated that the cattle operation was their full-time operation. Among the 54 percent that reported outside employment, 78 percent indicated that they had full-time jobs in addition to their cattle operation; the remaining 22 percent worked part-time jobs.

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The survey also queried respondents regarding the size of their operations' improved and native pastures. One-third of the respondents indicated that they had between 21 and 100 acres of improved pasture, and another 34 percent had between 100 and 500 acres of improved pasture. Only 19 percent reported having between 500 and 5,000 acres, and a mere three percent reported over 5,000 acres. The low end of the scale experienced a similar decrease in respondents with only 11 percent reporting to have 20 or fewer acres of improved pasture. The percentages were roughly similar regarding native pasture; again, operators with 21 to 5,000 acres dominated the survey, though those operators with 20 or fewer acres of native pasture tallied 16 percent, a modest increase over those with the same acreage of improved pasture (Figure 2).

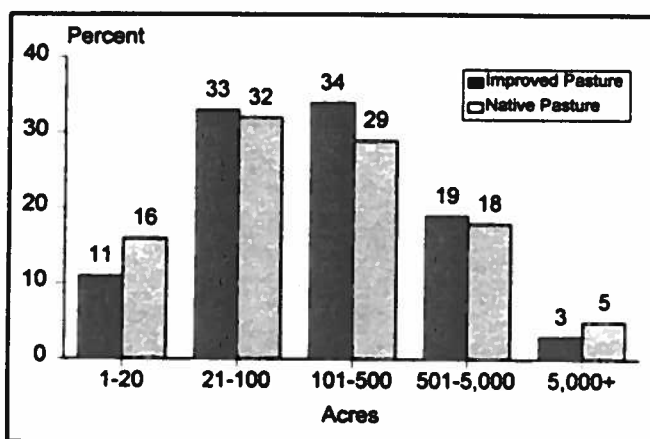


Figure 2. Beef operations' acreage in improved and native pasture.

The survey also sought information regarding the number of brood cows in each operation. A major consideration in developing this question was that it takes at least 150 cows to produce enough calves to form a mixed load of steers and heifers for a typical video marketing program. The ability to assemble a 50,000-pound load of calves is considered the breaking point in terms of opening a number of viable marketing alternatives. About 70 percent of the 450 respondents had herds of fewer than 150 brood cows. Of the remaining 30 percent that had herds larger than the breaking point, 19 percent had between 151 and 500 cows, and 11 percent had more than 500 (Figure 3).

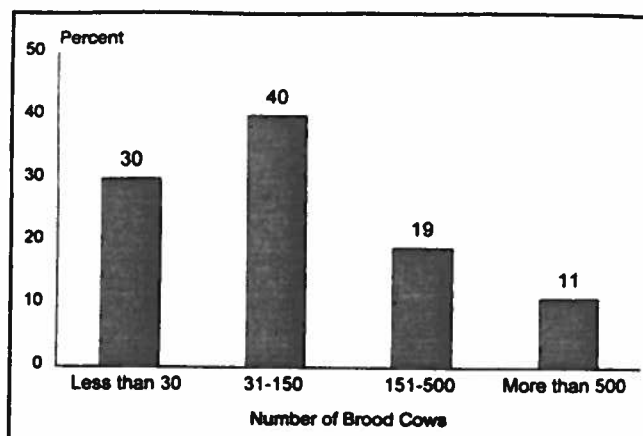


Figure 3. Number of brood cows in beef operation.

REPRODUCTION PRACTICES

The second section of the survey queried operators regarding their reproduction practices, such as the manner in which they select replacement bulls, check herd pregnancy, inseminate cows, and obtain replacements. When asked what criteria they used to select replacement bulls, operators ranked visual appearance and performance very highly. Expected progeny differences (EPDs) and carcass information, conversely, were ranked low as criteria for replacement bull selection (Table 1).

The survey also asked producers/owners for information regarding the manner in which they check herd pregnancy. More than 57 percent of the 419 respondents indicated that they were not palpating pregnancy in any cows. Twenty-nine percent reported checking all cows for pregnancy while another 14 percent only checked dry cows (Figure 4).

Table 1. Rank of information used by producers in selecting replacement bulls.

| Factor | Most Important | | | | Least Important | | | Not Used |
|---------------------|----------------|----|----|----|-----------------|----|--|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Visual Appearance | 188 | 80 | 58 | 32 | 19 | 9 | | 51 |
| Performance | 150 | 63 | 58 | 45 | 19 | 3 | | 99 |
| Price | 100 | 64 | 74 | 44 | 30 | 44 | | 81 |
| Pedigree | 97 | 52 | 49 | 42 | 3 | 41 | | 153 |
| EPDs | 62 | 43 | 28 | 28 | 45 | 66 | | 165 |
| Carcass Information | 27 | 22 | 35 | 42 | 60 | 63 | | 188 |

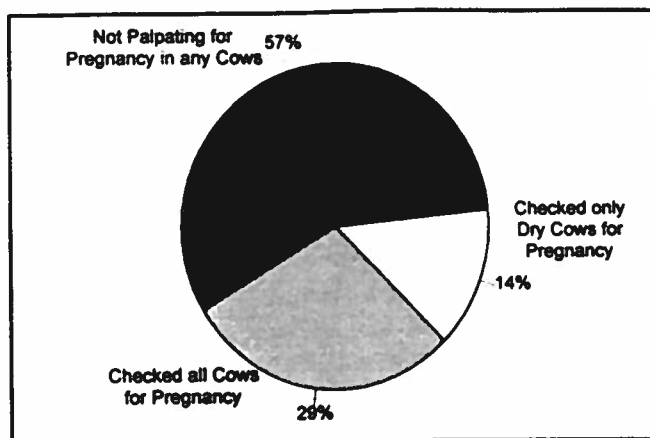


Figure 4. Methods of monitoring herd pregnancy.

Of the 182 respondents who indicated that they checked their cows for pregnancy, 66 percent reported that they used a veterinarian; another 35 percent said they themselves or employees checked the cows, and 8 percent said they relied on someone else to perform these tests. Since the percentage exceeds 100 percent, this implies that a combination of testing methods was used in some herds. When asked if they artificially inseminated their cows, only 11 percent of the 437 respondents affirmed that they used artificial insemination.

The survey also gathered information from owners/producers regarding the management of herd replacements. Sixty-four percent indicated that they managed their herd replacements separate from their mature cow herd; of this group, 96 percent maintained weaned heifers as a separate group, 38 percent continued to maintain first calf cows separately, and only 9 percent continued to maintain second calf cows as a separate group. When asked where they obtained herd replacements, 86 percent of the respondents replied that they raised their own; another 42 percent stated that they purchased their herd replacements, which indicates that 28 percent of all respondents utilized both methods of obtaining replacements.

MARKETING PRACTICES

This section of the survey sought information regarding the manner in which owners/producers market their calves as well as information on production practices that will affect the marketability of calves, such as the number of breeds of bulls and vaccination practices. When asked which methods of selling calves they used, most respondents indicated that they used the livestock auction market.

Marketing directly to a purchaser was ranked a distant second; it was ranked as the first or second most important method by one-third of the beef producers surveyed. Relatively few producers ranked order buyers and video auctions as important methods to sell calves (Table 2).

One breed of bull was used by 47 percent of the respondents. One-quarter of those surveyed indicated that they used two breeds of bulls; fifteen percent said they used three breeds, and 13 percent used four breeds or more. The use of more than one breed with a herd can contribute to increased variability in the calf crop.

The survey queried operators regarding the length of their breeding season, and 13 percent reported a breeding season of less than 90 days; forty-three percent had a breeding season of 120 days or less. Those respondents with a breeding season of 121 to 150 days tallied 15 percent, and 42 percent had a breeding season of more than 150 days.

The survey also sought information regarding a variety of procedures that impact the marketability of calves. The results indicate that 75 percent of the respondents castrated their calves; thirty-six percent of those surveyed implanted calves. Seventy-three percent dewormed their calves. When asked if they taught their calves to drink water from a trough, 40 percent answered that they had; also, 37 percent taught calves to eat from a feed bunk. One-quarter of the respondents indicated that they had their calves dehorned genetically, and another 38 percent dehorned their calves physically; combining these, 63 percent of those surveyed practiced some method of dehorning. When asked about their methods of vaccination, 39 percent of the respondents indicated that they did not vaccinate their calves at all. Among those who did vaccinate their calves, 75 percent vaccinated for brucellosis, 73 percent for clostridia, 30 percent for IBR.

Table 2. Rank of methods favored by producers in selling calves.

| Method | Most Important | | | Least Important | | |
|--------------------------|----------------|----|----|-----------------|---|----------|
| | 1 | 2 | 3 | 4 | 5 | Not Used |
| Livestock Auction Market | 349 | 43 | 19 | 2 | 0 | 38 |
| Direct to Purchaser | 86 | 53 | 9 | 5 | 1 | 297 |
| Order Buyer | 28 | 18 | 8 | 3 | 1 | 393 |
| Video Auction | 27 | 4 | 5 | 2 | 9 | 404 |
| Board Sale | 3 | 8 | 3 | 6 | 3 | 428 |

and leptospirosis, 25 percent for BVD, 23 percent for PI3, 20 percent for pasteurilla, 17 percent for BRSV, and 15 percent for H. Somnus. Overall, about 20 to 25 percent of the respondents indicated that they vaccinated for respiratory viruses, while vaccination against clostridia and brucellosis was in the 70 to 75 percent range.

The survey also queried producers regarding vaccination practices involving their cow herd. Thirty-eight percent indicated that they did not vaccinate their cow herd for any of the diseases listed on the survey instrument. Of those who did vaccinate their cow herd, 46 percent vaccinated for Clostridia, and only two-thirds of the respondents vaccinated for Brucellosis. Among those who vaccinated for the respiratory viruses, 21 percent vaccinated for IBR, and 16 percent for PI3. Only 11 percent vaccinated for Trichomoniasis, a disease that affects reproduction. For Vibriosis and Leptospirosis, two diseases known to have an impact on reproduction, the results indicate that 41 percent and 47 percent of those surveyed vaccinated for those, respectively. Vaccinations for BVD, H. Somnus, Pasteurella, and BRSV—all known as primarily respiratory diseases—are also in the 10 to 20 percent range. Fourteen percent reported that they vaccinated for Redwater, a clostridial disease that is of concern because of possible liver damage, especially when liver flukes are present.

RECORD KEEPING & ANALYSIS PRACTICES

This section of the survey sought to gain information regarding owner/producer recording-keeping and analysis practices, such as tracking inventory and keeping accurate financial and production records. When asked if they identified each cow and her calf, 69 percent of the 436 respondents indicated that they did identify their cows; of those, 54 percent also identified their calves. Individually identifying cows and calves helps inventory control, and ear tags are one of the recommended methods. Fifty-seven percent of those surveyed reported that they also kept beef herd records; of those, 81 percent reported that they maintained production records, and 73 percent kept financial records. When asked if these records were consulted in a business analysis, 57 percent said that they were. The survey also asked producers if they were familiar with the Standardized Performance Analysis (SPA), and 28 percent of the respondents indicated that they had heard of SPA, but only 4 percent reported actually using it. SPA is a

relatively new business production analysis program developed by the National Cattlemen's Association and the National Integrated Resource Management (IRM) Committee.

NUTRITION PRACTICES

This section of the 1994 Beef-Forage Survey was designed to obtain information regarding producers' nutrition practices, such as the types of forage and winter supplements used in feeding cattle. When asked about forages used during the winter, hay was used by 90 percent of the respondent. Sixty-two percent indicated that they used ryegrass or small-grain pasture, and only 4 percent used silage of any type; one-half of the respondents used native range, and 22 percent used deferred grazing. A variety of other forages, including newer species of grasses and clovers not listed on the survey instrument, were used by 3 percent of those surveyed. Based on these responses, many operators used multiple sources of forage for the winter.

The survey also asked operators to rank the importance of a variety of winter supplements, and of the seven supplements listed, molasses supplements, protein blocks or tubs, and protein mineral mixes were ranked highly by many beef producers. Fewer producers—15 to 30 percent of those surveyed—ranked range cubes, protein salt mixes, and dry supplements as important winter supplements. Molasses slurry supplements have been developed in the last 10 years, and 40 producers ranked them first or second (Table 3). When asked if they had their forage analyzed for nutrient content, only 14 percent of the 450 responses indicated that forage was analyzed.

Table 3. Rank of winter supplements fed to cattle.

| Supplement | Most Important | | | | Least Important | | | |
|------------------------|----------------|----|----|---|-----------------|---|---|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not Used |
| Molasses Supplement | 190 | 18 | 7 | 1 | 0 | 7 | 2 | 208 |
| Protein Blocks or Tubs | 156 | 25 | 9 | 6 | 2 | 1 | 0 | 234 |
| Protein Mineral Mix | 132 | 38 | 18 | 6 | 0 | 0 | 0 | 239 |
| Range Cubes | 89 | 36 | 25 | 5 | 2 | 0 | 1 | 275 |
| Protein Salt Mix | 75 | 24 | 8 | 4 | 5 | 0 | 2 | 315 |
| Dry Supplement | 39 | 20 | 9 | 5 | 2 | 1 | 0 | 357 |
| Molasses Slurry | 29 | 11 | 2 | 0 | 0 | 4 | 1 | 386 |

Also, when asked if they were aware that hay can be treated with ammonia to improve nutritional value, 76 percent of the 444 responding to the question affirmed that they were in fact aware of this practice; however, only 9 percent—or 29 of the 339 operators aware of the benefits of ammonia treatment—reported actually adopting this practice.

The survey also questioned operators as to whether they used cows' body condition (thin versus fleshy) to adjust their feeding program, and of the 441 responses to the question, 74 percent said that they did use body condition to adjust their feeding program. This behavior indicates an awareness of the importance of body condition which has been targeted by UF/IFAS Extension educational programs.

FORAGE PRODUCTION

This section of the survey sought information regarding the varieties of forage, fertilizer, and methods of pest control utilized by operators. When asked if they had planted a new forage on their ranches in the last 5 years, 52 percent of the 446 respondents affirmed that they had; of the ten varieties of forage listed on the survey instrument, Tifton-9 bahiagrass and bermudagrass were the operators' favored varieties. In descending order, aescynomene, stargrass, Floralta limpgrass, flame crimson clover, and perennial peanut were lesser utilized varieties, and Cherokee red clover and Carpon desmodium, the least utilized varieties, tallied a 4 percent response (Figure 5). Some varieties not listed on the survey instrument, notably Argentine bahiagrass and Pensacola bahiagrass, garnered a relatively high percentage of operator responses, about 4 percent each.

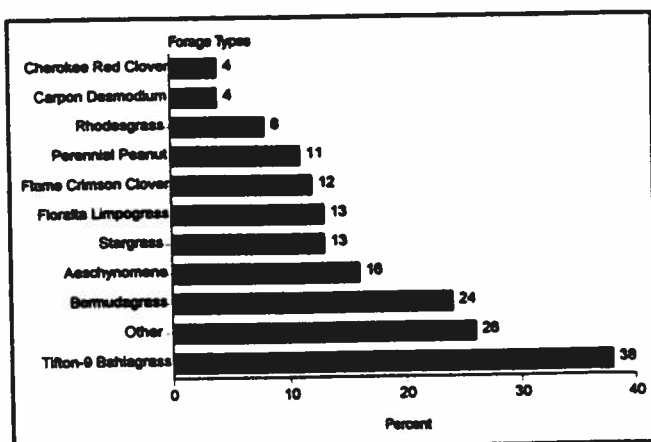


Figure 5. Beef operators' preferred varieties of forage.

The survey also queried operators regarding what they found to be the most important factor in determining their hay or pasture fertilization program. Of the 348 responses, the operators' previous experience or the use of soil tests

was the preferred determining factor for most operators, with the recommendations of fertilizer dealers and the university coming in a distant third and fourth place, respectively (Figure 6).

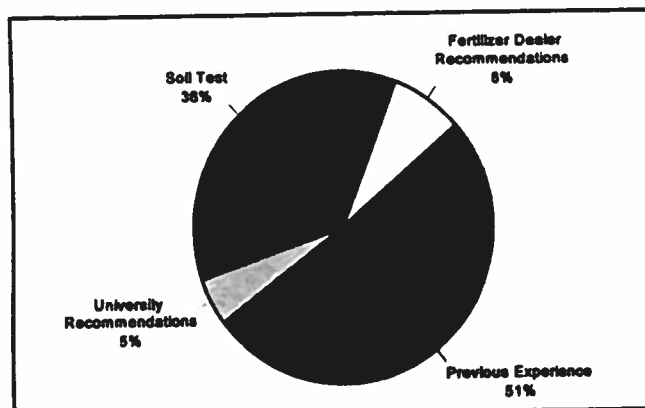


Figure 6. Most important factor determining beef operators' fertilizer usage.

When asked what percentage of the acreage of their bahiagrass pasture they fertilized each year, 373 of those surveyed responded to the question; of those, almost 40 percent indicated that they fertilized less than one-half of the acreage (Figure 7). The survey also queried operators who fertilized their bahiagrass pasture each year as to the type and amount of nutrients applied. Regarding nitrogen application, 35 percent of the respondents reported that they applied 50 pounds or less per acre each year; 48 percent applied 50 to 100 pounds per acre, and 17 percent applied over 100 pounds per acre. When asked about potassium (K_2O) application to bahiagrass pasture, 28 percent said they applied 10 pounds or less a year; 13 percent applied 10 to 20 pounds, 17 percent applied 20 to 30 pounds, and 42 percent applied over 40 pounds per acre annually. The responses for phosphorus application are roughly similar to that of potassium, with 27 percent of the respondents applying less than 10 pounds per acre each

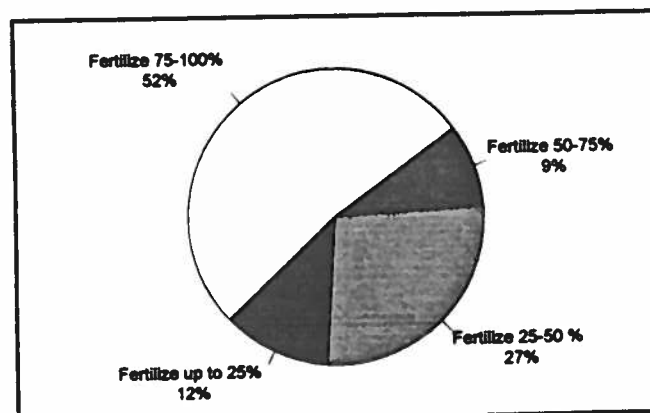


Figure 7. Percentage of bahiagrass pasture fertilized by beef operators each year.

year, 17 percent applying 10 to 20 pounds, 13 percent applying 20 to 30 pounds, and 41 percent applying over 30 pounds per acre annually.

The survey also asked operators if they had changed their fertilization program in the last 10 years. Of the 410 responses to this question, 62 percent reported that they had not changed their program, which means they failed to respond to market conditions, recommendations, and other factors. Of the 155 respondents who did change their fertilization programs, 66 percent reported an increased use of nitrogen; thirty percent increased phosphate levels, and 38 percent increased potassium levels. Conversely, 19 percent lowered their nitrogen usage; 51 percent lowered phosphate levels, and 39 percent decreased their potassium levels. The percentage of respondents that maintained steady levels of nutrient application in the last 10 years were roughly similar with all 3 nutrients, ranging from 16 to 22 percent. In all three categories of fertilizer, the large operators—that is, operators with at least 500 acres of improved pasture—were more apt than small operators to decrease their fertilizer application, particularly phosphorus. Consistent with Extension's program goals, 67 percent of the large operators who responded to the question decreased their phosphorus application as compared to only 43 percent of operators with less than 250 acres of improved pasture. This pattern is more or less consistent with potassium and nitrogen application as well, with large operators decreasing application at twice the rate of small operators.

When asked of their reasons for changing their bahiagrass fertilization program, 67 percent of the 156 respondents indicated that recommendations from UF/IFAS Extension Faculty prompted them to change; forty-five percent cited the cost of fertilization as the motivating factor. Environmental concerns were cited by only 13 percent, a surprisingly small number for that important category. Fifteen percent checked the "Other" category. The survey also asked operators if they had changed their liming program in the last 10 years. Of the 415 responding to the question, only 17 percent indicated that they had changed the tonnage per application, the frequency of application, or their target pH; of these, 54 percent reported an increase in the tons of lime applied per acre, 21 percent reported a decrease, and 25 percent reported no change. Also, 56 percent indicated that they had not limed as often as they had in the past;

another 19 percent reported fewer years between liming, and 25 percent reported no change in their liming schedule. Only 48 operators responded with information regarding changes in target pH, a concept with which some operators may not be familiar. Fifty-two percent said that they increased their target pH, 25 percent lowered it, and 23 percent reported no changes. UF/IFAS Extension Faculty, who recommend a target pH of 5.5 for bahiagrass, expected the data to reveal a stronger trend toward lowering pH. Earlier recommendations called for a pH in the 5.5 to 6.5 range; however, research indicates the lower target pH of 5.5 to be more desirable and cost effective.

When asked if they had experienced pasture damage from mole crickets, 48 percent of the 437 respondents indicated that they had in fact experienced damage. Of this group, 40 percent replied that damage had increased over the last three years; another 41 percent replied that their pasture damage had remained the same, and the remaining 19 percent reported a decrease in pasture damage caused by mole crickets, which indicates that, on balance, mole crickets continue to be a significant pest problem.

The survey also sought information from operators regarding the varieties of pasture weeds they found the most troublesome (Table 4). Of the seven varieties listed on the survey instrument, dogfennel elicited the largest number of responses, tallying 348; of those, 42 percent determined that it was the most troublesome. Smutgrass was listed by 291 operators, with 38 percent labeling it as the most troublesome. With 248 responses, blackberry garnered the third-most number of replies, and 27 percent

Table 4. Operator's ranking of troublesome pasture weeds.

| Table 4. Operator Ranking of Troublesome Plants | | | | | | | | | |
|---|------------------|----|----|----|----|-------------------|----|----|----------|
| Weed | Most Troublesome | | | | | Least Troublesome | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Unranked |
| Dogfennel | 146 | 89 | 50 | 32 | 10 | 10 | 4 | 7 | 111 |
| Smutgrass | 111 | 77 | 38 | 28 | 10 | 6 | 6 | 15 | 168 |
| Blackberry | 68 | 45 | 54 | 25 | 19 | 12 | 11 | 14 | 211 |
| Pigweed | 45 | 32 | 41 | 27 | 30 | 16 | 15 | 20 | 233 |
| Tropical Soda Apple | 45 | 22 | 16 | 20 | 14 | 18 | 20 | 37 | 267 |
| Waxmyrtle | 15 | 18 | 15 | 33 | 23 | 27 | 19 | 27 | 282 |
| Gallberry | 4 | 8 | 11 | 14 | 17 | 22 | 30 | 36 | 317 |
| Other | 61 | 10 | 12 | 10 | 8 | 2 | 2 | 12 | 342 |

ranked it as the most troublesome. Two-hundred twenty-six respondents listed pigweed, with one-fifth of those citing it as the most troublesome. Tropical soda apple was listed by 192 operators, and 23 percent listed it as the most troublesome pasture weed; nine percent of the 177 respondents who listed waxmyrtle categorized it as the most troublesome, and 142 respondents checked gallberry, of which 29 percent found it to be the most troublesome. One hundred seventeen operators listed several varieties--such as coffeeweed, which netted 24 responses--that were not included on the survey instrument, and 52 percent cited these weeds as the most troublesome. When asked what method they employed in controlling pasture weeds, 98 percent of the 451 respondents indicated that mowing and chopping was utilized; another 14 percent used complete pasture renovation, and 48 percent used herbicides to control pasture weeds. Of the 249 respondents in this latter group, only 3 percent applied herbicides by airplane; the most popular method, checked by 76 percent, was to apply herbicides with field sprayer. One-fourth of the respondents applied herbicides in liquid fertilizer, and 12 percent used a wick applicator. Though specific methods were not listed, 10 percent marked "Other" on the survey instrument.

ENVIRONMENTAL CONCERNS

This concluding section the 1994 Beef Forage Survey quizzed operators for information regarding their environmental awareness. When asked if their cattle consumed water from a canal, ditch, stream, river, or lake, 71 percent of the 451 respondents affirmed that cattle did consume water from these sources. Of these, three-fifths reported that these sources were their cattle's primary source of drinking water in over half of their pastures; seventeen percent reported that these bodies of water were the primary source in less than half of their pastures. The remaining 23 percent indicated that these sources of drinking water were not the primary source for their cattle. Operators were also asked if they fed mineral, hay, or supplements within 100 feet of a canal, ditch, stream, river, or lake, and 90 percent of the 446 respondents answered that they did not. This indicates that most owners, managers, and operators are aware of the need to keep cattle away from bodies of water in order to reduce pollution.

The final question of the survey listed eight maladies, including "Other," of the beef industry and asked operators to rank them in order of importance (Table 5). Price was ranked as the most important problem of the industry; it garnered 411 responses, half of which list it as the industry's number one concern. Production costs elicited 388 responses, 27 percent of which ranked it as the most important problem. Environmental issues and government regulations generated 356 and 355 responses, respectively, and each was listed by 21 percent as the industry's most pressing concern. Demand for beef also garnered 356, with 17 percent citing it as the most important problem. Consumer concerns and zoning issues were mentioned by 338 and 336 operators, yet under 10 percent of the respondents cited each of these as the industry's biggest headache. The "Other" category generated only 44 responses, in which a variety of concerns were ranked as the most important, notably the North American Free Trade Agreement (NAFTA) and anti-beef campaigns.

Table 5. Beef industry's most important problems as ranked by beef operators.

| Operators | | | | | | | | | |
|------------------------|----------------|----|----|----|----|-----------------|-----|----|----------|
| | Most Important | | | | | Least Important | | | |
| Problem | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Unranked |
| Price | 205 | 88 | 38 | 35 | 19 | 16 | 10 | 0 | 48 |
| Production Costs | 106 | 88 | 57 | 49 | 43 | 20 | 24 | 1 | 71 |
| Government Regulations | 74 | 55 | 51 | 47 | 62 | 39 | 21 | 6 | 104 |
| Environmental Issues | 73 | 65 | 49 | 52 | 52 | 41 | 18 | 6 | 103 |
| Demand for Beef | 60 | 69 | 68 | 44 | 39 | 43 | 31 | 2 | 103 |
| Consumer Concerns | 29 | 18 | 48 | 72 | 46 | 74 | 42 | 9 | 121 |
| Zoning Issues | 24 | 21 | 33 | 28 | 35 | 56 | 122 | 17 | 123 |
| Other | 12 | 3 | 2 | 2 | 3 | 0 | 5 | 17 | 415 |

METHODOLOGY OF THE 1994 BEEF FORAGE SURVEY

This section reviews the methodology used for obtaining data for the 1994 Beef Forage survey, including definition of the study population and coverage, sampling procedures, nonresponse, and instrumentation and measurement.

Coverage

The survey population included commercial beef producers in the 43 participating counties: Alachua, Bradford, Brevard, Charlotte, Clay, Columbia, Duval, Flagler, Gadsden, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Hillsborough, Jefferson, Lafayette, Lake, Leon, Levy, Madison, Manatee, Martin, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Polk, Putnam, St. Johns, St. Lucie, Santa Rosa, Sarasota, Seminole, Sumter, Suwannee, Taylor, Union, Wakulla, and Walton..

The sampling frame consisted of Extension mailing lists containing the names of 5,404 beef producers. The lists probably include most producers, but likely exclude some small operations. Minimal coverage error is likely.

Sampling

Participating county Extension faculty were asked to send a purged (excluding duplicates, Extension faculty, and non-livestock businesses) mailing list to the UF/IFAS Program Evaluation and Organizational Department (PEOD) unit. PEOD reviewed the mailing lists and purged those lists which had not been purged. Twenty percent of the producers on the purged list were systematically selected for each county, except for the list from Orange, Seminole, and Union counties. In the case of the latter three counties, producers were purposely selected by the county agent. Of the 929 producers in the sample, 38 (4.1 percent) were selected deliberately. In sum, the sample is essentially a systematic random sample.

Of the 929 producers in the sample, 140 indicated that they no longer produced beef, 43 could not be contacted at the available address, and 31 were identified by agents as no longer in the business. Thus, the reachable sample was 713. A total of 459 useable responses were obtained. A sample of 459 has a sampling error of ± 4.5 percent for a 95 percent confidence interval.

Nonresponse

The 459 useable responses represent a response rate of 64.4 percent. The response rate is within a generally acceptable range, and nonresponse should not be a serious problem.

Measurement

The survey instrument utilized questions from prior Beef Forage Surveys, including those conducted in 1982, 1986, and 1990. Several questions were revised by state specialists on design teams and in the Program Evaluation unit to ask for more detailed information; questions

concerning the environment were added to the instrument. County faculty reviewed the instrument and provided suggestions which were incorporated into the final draft.

The data collection process followed procedures outlined in *Mail and Telephone Surveys* by Don Dillman. A pre-card was signed by the appropriate Extension agent and mailed to each producer, followed by a cover letter (each one was personally signed by the survey coordinator) and instrument. Subsequently, nonrespondents were sent a reminder postcard, a second survey, a second reminder card, and a third survey.

Reference

Dillman, Don A. *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley & Sons, 1978.

BEEF-FORAGE SURVEY—1994



1

Are you presently involved in the beef business as owner, manager, or operator?

_____ Yes _____ No _____

If **NO**, it's not necessary to answer other questions, but please return this form in the postage paid envelope.

I. ABOUT THIS BEEF OPERATION

1. This beef operation is? Check one or both.

_____ Commercial
_____ Purebred

2. Does the owner of this farm or ranch have another job?

_____ Yes _____ No _____



▶▶▶ If YES, is this other job

_____ Part time?
_____ Full time?

3. What is the size of your operation?

a) Acres in improved pasture _____
b) Acres in native pasture _____

4. Number of brood cows?

_____ Fewer than 30
_____ 30 to 150
_____ 151 to 500
_____ Over 500

II. REPRODUCTION

1. What information do you use to select replacement bulls? Please rank all that apply. (1=most important; 6=least important)

_____ Price
_____ Performance
_____ Pedigree
_____ Visual appearance
_____ Carcass information
_____ Expected progeny differences (EPDs)

2. Is this herd pregnancy checked by palpation yearly?

a) All cows _____ Yes _____ No _____

b) Only dry cows _____ Yes _____ No _____

- c) If **YES** to either "a" or "b", who does it?
Check all that apply.

_____ You or your employee
_____ Veterinarian
_____ Other _____
(Specify)

- d) Do you artificially inseminate any of your cows?

_____ Yes _____ No _____

3. Do you manage herd replacements separate from mature cow herd?

_____ Yes _____ No _____



▶▶▶ If YES, which groups?

_____ Weaned heifers
_____ First calf cows
_____ Second calf cows

4. Where do you obtain herd replacements?

_____ Raise your own
_____ Purchase

III. MARKETING

1. How are calves sold? Rank only those methods that you use. (1=most important)

_____ Livestock auction _____ Direct to purchaser
_____ market
_____ Order buyer _____ Board sale
_____ Video auction

2. How many breeds of bulls are used in this herd?

_____ Number of breeds in herd

3. What is the length of your breeding season?

_____ Fewer than 90 days
_____ 90 to 120 days
_____ 121 to 150 days
_____ More than 150 days



4. Which of the following are done to your calves before marketing? Check all that apply.

☐ Castrate ☐ Dehorn genetically (polled bulls)
☐ Implant ☐ Dehorn physically
☐ Deworm
☐ Teach to drink water from trough
☐ Teach to eat feed from feed bunk

Vaccinate calves for:

☐ Clostridia (7-way) ☐ BVD
☐ Brucellosis ☐ H. Somnus
☐ IBR ☐ Pasteurella
☐ PI₃ ☐ BRSV
☐ Leptospirosis

5. Which of the following vaccinations are given to your cow herd? Check all that apply.

☐ Clostridia (7-way) ☐ BVD
☐ Brucellosis ☐ H. Somnus
☐ IBR ☐ Pasteurella
☐ PI₃ ☐ Leptospirosis
☐ Trichomoniasis ☐ BRSV
☐ Vibriosis ☐ Redwater

IV. PRODUCTION

1. Do you individually identify?

Each cow ☐ Yes ☐ No
 Her calf ☐ Yes ☐ No

2. Do you keep beef herd records?

☐ Yes ☐ No



▶▶▶ If YES, which ones?

a) ☐ Production
 ☐ Financial

- b) Do you use the records in a business analysis?

☐ Yes ☐ No

3. Have you heard of the Standardized Performance Analysis (SPA)?

☐ Yes ☐ No



▶▶▶ If YES, have you used it?

☐ Yes ☐ No

V. NUTRITION

1. Forage used during winter? Check all that apply.

☐ Ryegrass or small-grain pasture
☐ Hay
☐ Silage
☐ Native range
☐ Deferred grazing
☐ Other _____ (Specify)

2. Winter supplements fed? Rank all that are used. (1 = most important)

☐ Molasses supplement
☐ Molasses slurry
☐ Protein blocks or tubs
☐ Range cubes
☐ Protein mineral mix
☐ Protein salt mix
☐ Dry supplement

3. Do you have your forage analyzed for nutrient content?

☐ Yes ☐ No

4. Are you aware that hay can be treated with ammonia to improve nutritional value?

☐ Yes ☐ No



▶▶▶ If YES, have you treated hay with ammonia?

☐ Yes ☐ No

5. Do you use your cows' body condition (thin vs. fleshy) to adjust your feeding program?

☐ Yes ☐ No



7. Do you experience pasture damage from mole crickets?

____ Yes No ____



▶▶▶ If YES, within the past three years has damage increased or decreased in your pasture?

____ Increased
____ Decreased
____ Same

8. Rank the following pasture weeds in terms of being most troublesome to being least troublesome. (1=most troublesome; 8=least troublesome)

____ Smutgrass
____ Dogfennel
____ Blackberry
____ Pigweed
____ Tropical soda apple
____ Waxmyrtle
____ Gallberry
____ Other _____
(Specify)

9. How do you control pasture weeds? Check all that apply.

____ Mowing or chopping
____ Complete pasture renovation
____ Herbicides

10. If herbicides are used, how do you apply them? Check all that apply.

____ Airplane
____ In liquid fertilizers
____ Field sprayer
____ Wick applicator
____ Other _____
(Specify)

VII. ENVIRONMENTAL

1. Do your cattle drink water from a canal, ditch, stream, river, or lake?

____ Yes No ____



▶▶▶ If YES, is this their primary source of drinking water?

____ Yes, in over half of pastures
____ Yes, in less than half of pastures
____ No

2. Do you feed mineral, hay or supplements within 100 feet of a canal, ditch, stream, river, or lake?

____ Yes No ____

3. Problems facing the Beef Industry. Rank in order of importance. (1=most important; 8=least important.)

____ Price
____ Demand for beef
____ Governmental regulations
____ Consumer concerns
____ Zoning issues
____ Environmental issues
____ Production costs
____ Other _____
(Specify)



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