1956

Winter pasture studies in southwest Louisiana

David E. Black

Follow this and additional works at: http://digitalcommons.lsu.edu/agexp

Recommended Citation
Black, David E., "Winter pasture studies in southwest Louisiana" (1956). LSU Agricultural Experiment Station Reports. 398. http://digitalcommons.lsu.edu/agexp/398

This Article is brought to you for free and open access by the LSU AgCenter at LSU Digital Commons. It has been accepted for inclusion in LSU Agricultural Experiment Station Reports by an authorized administrator of LSU Digital Commons. For more information, please contact gcoste1@lsu.edu.
WINTER PASTURE STUDIES in Southwest Louisiana

by DAVID E. BLACK and R. K. WALKER

Agricultural Experiment Station
Charles W. Upp, Director

Louisiana State University
and
Agricultural and Mechanical College
Winter Pasture Studies in Southwest Louisiana

David E. Black and R. K. Walker

INTRODUCTION

The seven major rice producing parishes in southwest Louisiana produce 89 per cent of the rice and 24 per cent of the beef cattle on 15 per cent of the cultivatable land in the state. The relatively high concentration of beef cattle in this area is due to the following factors:

1. A mild winter climate.
2. Rotation systems that provide a large acreage of native pasture.
3. Noxious weeds in rice are controlled to some extent by moderate to heavy grazing.
4. A large quantity of rice straw is available for hay.
5. Second-growth rice following harvest provides excellent grazing during September, October, and November.
6. Improved pastures and supplementary pastures can be established to provide year-round grazing.

Most of these factors show that rice and beef cattle enterprises benefit each other instead of being competitive.

Prior to 1945, cattle were wintered largely on huge rice straw haystacks that were specially constructed during the rice threshing operation. However, because of the switch to self-propelled combines which eliminated the traditional haystacks, a serious problem of providing winter feed was encountered. Earlier studies (1, 2) showed that year-round grazing could be profitably provided through improved pastures supplemented with winter pastures.

The purpose of these studies was to determine the value of several winter grazing crops and different methods and dates of seeding.

COMPARISON OF WHEAT, OATS, RYE GRASS, AND FESCUE FOR WINTER GRAZING

Experimental Procedure

An experiment was established in the fall of 1950 on Crowley silt loam soil. Four different pasture seed treatments were used. Each treatment was established on plots of four acres in size and was replicated twice. The pasture seedings were: (1) Southland oats, three bushels per acre; (2) rye grass, 25 pounds per acre; (3) fescue, 20 pounds per acre, and Crimson clover, 10 pounds per acre; and (4) fescue, 20 pounds per acre.

COVER PICTURE—Oats that were seeded in rice stubble for grain production. Picture was taken January 25.
acre, and Alsike clover, 5 pounds per acre. All pastures were fertilized with 400 pounds of 3-12-12 fertilizer per acre at planting and topdressed with 32 pounds of nitrogen per acre on March 15, 1951. Since neither crimson clover nor Alsike clover made a satisfactory growth during the winter of 1950-51, wheat was substituted in the fescue-crimson clover pasture for 1951-52. Thus for the 1951-52 and 1952-53 seasons, the treatments were as follows: (1) Southland oats, (2) rye grass, (3) Atlas 66 wheat, (4) fescue. Three hundred pounds of 8-8-8 fertilizer per acre was used as topdressing in the fall and 30 pounds of nitrogen in the spring of the last two years.

Grazing was begun on these pastures when the forage was five to six inches tall, and the cattle were kept on these pastures continuously until about May 1. The number of cattle on each pasture was regulated according to the amount of forage produced, and cattle weights were recorded every 30 days. During the seasons of 1951-52 and 1952-53 the cattle were removed from one replication of the oat and wheat pasture on February 15 so that grain yields following pasturing could be obtained.

**Experimental Results**

The grazing data for the three winter seasons are presented in Table 1 and Figure 1. The oat pasture furnished the greatest carrying capacity and produced enough forage for grazing approximately 30 days earlier than either of the other three pastures. The oats produced an average of 185 pounds of beef per acre as compared to 167 for wheat, 145 for rye grass, and 67 for fescue. The total number of days of grazing per winter season from each of the pastures did not vary appreciably; however, the oats and wheat produced more forage earlier in the season, at a time when it is needed most. The average beef production per acre for each month during the growing season is shown in Figure 1. Fescue in this experi-

![Figure 1](image-url)
TABLE 1.—Summary of grazing data from the winter grazing experiment, 1950-1953

<table>
<thead>
<tr>
<th>Type of Pasture</th>
<th>Days grazing per year</th>
<th>Av. No. animal units /A*</th>
<th>Beef production (lbs./A.)</th>
<th>Grain yield (Bu./A**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oats</td>
<td>66</td>
<td>200</td>
<td>134</td>
<td>153</td>
</tr>
<tr>
<td>Wheat</td>
<td>172</td>
<td>106</td>
<td>159</td>
<td>...</td>
</tr>
<tr>
<td>Rye grass</td>
<td>80</td>
<td>203</td>
<td>106</td>
<td>129</td>
</tr>
<tr>
<td>Fescue</td>
<td>74</td>
<td>214</td>
<td>162</td>
<td>150</td>
</tr>
<tr>
<td>Fescue &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crimson clover</td>
<td>74</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

* Animal units equal 1,000 pounds of animal.
** Grain yields were measured after grazing was discontinued February 15 on one replication.
ment, as in other experiments, consistently produced low yields and is not considered adapted to the rice area of southwest Louisiana.

Discussion

Oats were somewhat superior to wheat, rye grass, and fescue for winter pastures because of earlier initial grazing and also higher beef production per acre. It was very evident that these crops will not be successful for winter grazing on the soils of southwest Louisiana unless extra care is taken to provide good surface drainage.

Wheat produced almost as much beef per acre as oats; however, the initial grazing date was approximately 30 days later than for oats. Because of the possibility of damage from freezing of early planted oats, it would be desirable to include wheat in a winter grazing program since it is more winter hardy. Wheat also recovers well from moderate winter grazing and low temperatures and will produce a moderate grain crop if not grazed later than February 15.

A herd of cattle may be continuously grazed during the entire 12-month period, with high rates of beef gains, by employing improved perennial pastures, supplemented by winter pastures, and hay crops. Adequate fertilization and good drainage are necessary, and irrigation should be used as needed. If these practices are followed, the Gulf Coast area of Louisiana will be among the most efficient beef cattle producing regions in the United States.

SEEDING WINTER PASTURES ON RICE STUBBLE

Another approach to the winter pasture problem is presently being investigated to determine the means by which winter grazing can be made available by planting grasses and legumes in rice stubble without seedbed preparation. In the fall of 1952 a number of grasses and legumes were planted in rice stubble, for observation, to determine whether or not this method was practical. Oats, wheat, and white clover were quite successful in the screening test. Three methods of planting oats were tried in the fall of 1953. The methods used were as follows: (1) preparing a good seedbed and planting with a grain drill in the usual manner, (2) dropping the seed in rice stubble, followed by a Caldwell field chopper to mash down the stubble, and (3) dropping seed in the stubble without any further preparation. Two hundred pounds of 16-20-0 fertilizer per acre was applied later as a topdressing on all plots. Grain yields from these treatments were as follows: 44 bushels per acre from plots receiving good seedbed preparation; 55 bushels per acre from plots planted in the rice stubble, where the stubble was mashed down with a Caldwell pasture renovator; and 57 bushels per acre where the seed were dropped in the stubble without any further treatment.

The preliminary studies appeared so promising that a date-of-seeding experiment was planted in the fall of 1954 to determine the optimum period for planting oats and wheat in rice stubble.
Top picture: Typical rice stubble being grazed during the winter months. (Photo taken January 25.) Bottom picture: Heavily grazed oats planted in rice stubble without seedbed preparation. (Photo taken January 25.)
Experimental Procedure

The experiment consisted of a total of 45 acres of rice stubble planted to oats and wheat, with 7.5 acres of oats and 7.5 acres of wheat planted on each of the following dates: October 1, October 15, and November 1. Since a very poor stand was obtained on both the oats and wheat that were planted on October 1, the dates of planting were changed to October 15, November 1, and November 15. The seed were dropped in the rice stubble with a grain drill at the rate of 4 bushels of oats and 1 1/2 bushels of wheat per acre, followed by a Caldwell pasture renovator field chopper to mash down the stubble. Two hundred pounds of 16-20-0 fertilizer per acre was applied at planting time. When the forage was 5 to 6 inches tall, grazing was begun and was continuous until May 9 on the last two dates of planting. Grazing was discontinued March 1 on the October 15 planting so that grain yields could be obtained. The number of cattle on each pasture was regulated according to the forage available. The cattle were weighed every 30 days.

Experimental Results

Excellent stands were obtained from both oats and wheat on all three dates of planting (October 15, November 1, and November 15). Grazing was begun December 15 on the first two dates of planting and January 12 on the last date of planting. Yield data are presented in Table 2. It appears from this test that planting in rice stubble should be made after October 15.

Fifty acres of oats and 13 acres of wheat were planted in rice stubble at the Rice Experiment Station on October 20, 1955. Excellent stands and good growth were obtained from both plantings.

**TABLE 2.—Grazing data from date-of-planting test using oats and wheat overplanted in rice stubble**

<table>
<thead>
<tr>
<th>Date of Planting</th>
<th>Days of grazing</th>
<th>Average No. animas/ A</th>
<th>Beef production per acre</th>
<th>Grain production / A</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 15</td>
<td>67*</td>
<td>0.62</td>
<td>86</td>
<td>24 bu. oats</td>
</tr>
<tr>
<td>November 1</td>
<td>145</td>
<td>0.83</td>
<td>150</td>
<td>16 bu. wheat</td>
</tr>
<tr>
<td>November 15</td>
<td>127</td>
<td>0.48</td>
<td>121</td>
<td></td>
</tr>
</tbody>
</table>

* Not grazed after March 1. Grain was harvested in May.

Discussion

From the above experiments it appears that oats and wheat definitely have a place on most farms in southwest Louisiana for both winter grazing and grain production. Oats and wheat may be planted either in a prepared seedbed or in rice stubble without seedbed preparation. There are advantages and disadvantages of each method. Earlier planting, which would result in earlier grazing, is possible when oats and
wheat are planted in a prepared seedbed; however, the cost would be greater, and the freshly prepared seedbed would not offer a firm footing for livestock, which would result in more bogging during wet weather. Another advantage of stubble seeding is that plantings can be made by airplane regardless of soil moisture conditions which limit preparation of seedbeds and planting thereon. Stubble planting would not be practical on fields that have been seriously cut up by combines under muddy harvest conditions due to drainage difficulties. Regardless of the method of planting, adequate fertilization and good drainage are essential.

**Literature Cited**
