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Paille finne grass

Samuel Mills Tracy

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Agricultural Experiment Stations

OF THE

Louisiana State University

and A. & M. College

PAILLE FINNE GRASS

BY

S. M. TRACY

Special Agent U. S. Department of Agriculture

BATON ROUGE
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1914
PREFACE.

For many years the Experiment Station has received inquiries from time to time regarding paille finne grass. People along the gulf coast region have used this grass to a limited extent for hay, and its value as a grazing grass is very generally recognized by people who have had an opportunity to observe cattle feeding upon it. More recently the management of one of the sugar plantations in Terrebonne Parish planned and constructed equipment for mowing and raking the paille grass from the wet prairie lands back of the plantation and adjacent to the banks of the drainage canals and used the hay for feeding plantation mules. At first the hay was chopped and mixed with blackstrap molasses and some dry concentrate and used for maintaining the plantation mules, and excellent results were secured. Then a plant was constructed for artificially drying the hay and machinery installed for grinding the dried product to a meal so that it could readily be used as a component of a dry mixed feed, which has been placed on the market. This mixed feed containing dried paille finne grass as a hay ingredient has earned an excellent reputation.

There have been a few instances in other localities where the grass has been given some special attention and its exceptionally high food value demonstrated.

As there was no available information as to the distribution of this grass and the quantity that might be secured, it was deemed advisable to make a reconnaissance of the gulf coast region with a view of ascertaining as nearly as possible the amount of this valuable grass within our borders. As the money for a detailed survey was not available, through the co-operation of the United States Department of Agriculture, the Louisiana Conservation Commission and the Experiment Stations of Louisiana State University, the expense of this preliminary survey has been met. The report of Prof. S. M. Tracy, Special Agent of the U. S. Dept. of Agriculture, will prove of especial interest and value to many people in Southwest Louisiana and to others who may contemplate using this very valuable grass of the gulf coast region.

W. R. Dodson.
PAILLE FINNE GRASS.


Biloxi, Miss., April 2, 1914.

During the past month I have made a somewhat thorough reconnaissance through Southern Louisiana in an endeavor to locate the lands on which "paille finne" grass, (*Panicum hemitomon*), is sufficiently abundant to be of economic importance. This work has been done through the co-operation of your office, of the Louisiana Conservation Commission, and of the Division of Forage Crop Investigations of the United States Department of Agriculture, and I have the honor to present the following report:

**DISTRIBUTION IN LOUISIANA.**

The grass occurs in more or less abundance on most of the low, open prairies which are not overflowed by high tides, and which are only occasionally covered by fresh water floods. It is rare on the salt marshes, and on timbered lands, and on prairies which are low and swampy it is usually replaced by "roseau" cane (*Phragmites*), saw-grass (egladium), tule (*Soirpus*), cattail flag (*Typha*), and other worthless species. It is rare on lands high enough to be cultivated in sugar cane; but is often abundant on the tops of low levees, even when rare a few yards further back. Its best growth seems to be made on land which is from one to three feet above the ordinary water level in the adjoining bayous and canals. It does not bear long-continued overflow, even of fresh water, and I found extensive areas where an abundant growth of three years ago had been almost destroyed by the floods of 1912. On such areas, however, there are still a few plants on levee banks and high places, and it is now gradually extending itself, and will soon cover its entire original territory. As the grass seldom produces seed, and its spread is almost wholly by means of its long rootstocks, its spread is slow.

In the course of this investigation I passed through several of the bayous in the salt-marsh region, through nearly all the
navigable bayous and canals in the fresh-water marsh region, made several trips by railroad, and talked with many planters and hunters who were familiar with the plant growth in different sections. I found the grass most abundant in two principal regions. The eastern region extends from a few miles west of New Orleans nearly to the Atchafalaya river, covering a good part of the northern half of Lafourche and Terrebonne parishes, both the eastward and westward extremes of the region showing only occasional small areas. The grass is specially abundant from Lockport westward to Houma, from Houma southward nearly to Quitman Lake, and westward along Black Bayou and Bayou Penchant, but was not seen on Bayou de Cade, or on the lower parts of Grand and Little Caillou. Very little was found north of Des Allemands, though there is a small area along Bayou Boeuf. Very little was found in St. Mary parish, though I was told that there are a few thousand acres near Bayou Sale, a locality I was unable to visit. None was seen in Iberia parish, except about 2,000 acres on Avery Island.

The other principal region where the grass is abundant is in Vermilion and Cameron parishes, extending from near Vermilion Bayou westward nearly to Sabine Lake, and northward from Vermilion Bay, White, Grand, and Calcasieu Lakes nearly or quite to the Southern Pacific railroad. This is decidedly the most uniform area in the State, as there are frequently thousands of acres in solid bodies, especially north of Grand Lake, and north of the canal connecting Lake Miserie with Calcasieu Lake. There is little of the grass south of the region indicated.

Only a small area was found in St. Bernard parish, and none in the parish of Orleans.

The grass is so often found in small and irregular tracts, and the regions where it grows are so broken by bayous and lakes, that it is impossible to make any accurate estimate of its acreage, and the figures given below may vary somewhat widely from the actual facts, and must be taken only as approximations. From my own observations made during the work, which covered nearly 1,500 miles of travel; and from statements made to me by men who I believe to be reliable and conservative, I place the acreage in different parishes as follows:
<table>
<thead>
<tr>
<th>Parish</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. John</td>
<td>10,000</td>
</tr>
<tr>
<td>St. Bernard</td>
<td>10,000</td>
</tr>
<tr>
<td>Jefferson</td>
<td>50,000</td>
</tr>
<tr>
<td>St. Charles</td>
<td>125,000</td>
</tr>
<tr>
<td>Lafourche</td>
<td>400,000</td>
</tr>
<tr>
<td>Terrebonne</td>
<td>600,000</td>
</tr>
<tr>
<td>St. Mary</td>
<td>20,000</td>
</tr>
<tr>
<td>Vermilion</td>
<td>325,000</td>
</tr>
<tr>
<td>Cameron</td>
<td>450,000</td>
</tr>
</tbody>
</table>

**Total** .................................................. 1,990,000 acres

A more complete survey covering sections not now easily accessible would probably show the above estimate to be somewhat too low, as I have included no sections of which I am not sure.

**VALUATION AS A HAY AND GRAZING CROP.**

Nearly all of the grass is growing on ground which is usable for grazing during the greater part of the year, but to make it profitable for hay is sometimes a difficult matter. If cut when the growth is young, and properly cured, it makes a hay of remarkably high feeding quality, but if allowed to stand until the stems become dry and woody it has little value. Probably a third of the land on which it is growing is sufficiently high and dry so that it can be cut with a mowing machine and handled like ordinary hay crops, but a great part of the natural meadows are too low and wet for the use of ordinary machinery, so the mowing must be done by hand, and the hauling by drags, which makes the hay expensive. Nearly all of the land on which the grass is growing, however, is so high that it can be drained easily, and so be made available for permanent meadows which will give from three to five annual cuttings, averaging fully one ton each. Lands which have been cut over annually for several years show no decrease in yield, so the grass seems to be practically permanent.

During the progress of the work I talked with many planters and feeders in regard to the value of the grass for feeding purposes, and found them almost unanimous in commending its high quality as a grazing grass, and as a grass for hay when cut at
the proper stage of growth. Its remarkably high content of protein gives it a feeding value which is exceeded by no other native grass common in this country. In Jefferson, Lafourche, and Vermillion parishes I met several planters who are finding it extremely profitable to buy feeders from northern Louisiana, the New Orleans stock yard, or other places, but them on the paille finne pastures for feeding and fattening, and then market them within six months without having given them a pound of any grain feed, the pasture alone being sufficient to put the animals in a good marketable condition. In many such cases the net profits have been from fifty to one hundred per cent.

I found others who are using it for hay, cutting some hundreds of acres of it annually. Planters at Lockport and Morgan City who have used the hay extensively in the feeding of mules were emphatic in their statements that they preferred the hay to that made from Timothy, as less is needed to keep the animals in good condition. At Houma, in Terrebonne parish, I found one planter who cuts a large acreage, and who uses the hay in making balanced rations for his mules. The freshly cut grass is taken to the central station where it is run through an ordinary feed cutter, and then through a steam-heated, revolving cylinder which dries it thoroughly in about an hour. It is then ground, mixed with "blackstrap" or some other carbonaceous concentrate so proportioned as to give a properly balanced ration. In proportioning the materials used he finds the paille finne grass to be nearly equal to alfalfa in nutritive value, and makes his mixture accordingly. He has about four hundred mules on his plantation, and they were in decidedly the best condition of any which I saw on the entire trip. He also finds a ready sale at satisfactory prices, for all the feed he is able to prepare.

As showing the high feeding value of the grass, and especially the high protein content, I quote the following analyses which have been compiled from the sources indicated. While the analyses vary, as would be expected from samples taken by different parties at different stages of maturity, they emphasize the unusually high protein content of the grass.
ANALYSES OF PAILLE FINNE.

<table>
<thead>
<tr>
<th>Source</th>
<th>Water</th>
<th>Protein</th>
<th>Carbohydrates</th>
<th>Fat</th>
<th>Fiber</th>
<th>Ash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana Experiment Station</td>
<td>8.56</td>
<td>9.87</td>
<td>42.29</td>
<td>2.22</td>
<td>31.39</td>
<td>5.15</td>
</tr>
<tr>
<td>Bureau of Plant Industry, U.S. Department of Agriculture</td>
<td>3.79</td>
<td>9.13</td>
<td>43.22</td>
<td>1.49</td>
<td>37.91</td>
<td>4.46</td>
</tr>
<tr>
<td>J. C. Mims, New Orleans</td>
<td>6.68</td>
<td>5.94</td>
<td>41.21</td>
<td>1.74</td>
<td>39.55</td>
<td>4.88</td>
</tr>
<tr>
<td>J. C. Mims, New Orleans</td>
<td>6.66</td>
<td>7.19</td>
<td>45.58</td>
<td>2.16</td>
<td>32.25</td>
<td>6.26</td>
</tr>
</tbody>
</table>

This paille finne grass, or "Pifine" as it is commonly called, covering approximately two millions of acres with its rank, natural growth, is certainly one of the greatest natural resources of Southern Louisiana, and is one which must add greatly to its future wealth.