

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.

95

Press
Mis.

195-96

Dated 15-1-1870

12

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
15th January 1870.*

No. 195. Read the following Proceedings of the Board of Revenue, dated 7th December 1869, No. 8,983:—

Read the following letter from the Honorary Secretary, Government Farm, to the Acting Secretary to the Board of Revenue, dated Madras, 22nd November 1869, No. 73.

I HAVE the honour to state that, on receipt of Government Order, 26th October 1869, No. 2,846, the Superintendent, Government Farm, was instructed to draw up a paper on the cultivation of "Yellow Cholum" which the Farm Committee consider very superior to "Guinea Grass" as a fodder-crop.

2. I have now to forward the paper; and the Superintendent begs me to ask the Board to allow it to be printed in pamphlet form, and that he will correct the proofs if sent to him.

3. I should also recommend that a good number of copies, say 300, be printed and freely distributed first to all news-papers, and subsequently to applicants, of whom the number will probably be large.

4. The summary might also be translated and published in *District Gazettes* in both English and the Vernaculars of the district.

ENCLOSURE No. 1.

Sorghum Saccaratum (Sorghum vulgare) or Yellow Cholum.

THIS is a beautiful grass, resembling in appearance Indian Corn. It bears a small yellow seed, which, when crushed, makes a good auxiliary food for cattle or sheep. It grows on all kinds of cultivated soil, but best on those that are *thoroughly* cultivated and well manured. Indeed, few crops will pay better for *high cultivation*. This valuable plant has attracted a great deal of attention during the last few years, and has been highly recommended as a fodder-crop. It is best suited for cultivation in countries where the temperature seldom falls below 60 degrees. It will certainly grow in much colder climates, but scarcely pays expenses. A few years ago the cultivation of this crop was attempted in England, and, amongst other places, on the Experimental Farm attached to the Royal Agricultural College: the yield of green food was insignificant, and its further cultivation was not deemed advisable. The experiment was, however, valuable in affording Dr. Voelcker an opportunity of analysing the crop during different stages of its growth. He found that the half-grown plant contained about two and-a-half per cent. of flesh forming matters, and about eleven per cent. of fat, as heat-producing matters. As the Turnip is the sheet anchor of the stock-feeder at Home, we place its analysis alongside Dr. Voelcker's analysis of Yellow Cholum. A glance at these analyses will suffice to show the great value of Yellow Cholum-fodder as food for Farm Stock:

	Yellow Cholum.	Turnip.
	Per Cent.	Per Cent.
Water	85.17	90.43
Flesh forming matters...	2.55	1.01
Fat or heat-producing matters ...	11.14	7.89
Inorganic matters	1.14	.64
	100.00	100.00

Dr. Voelcker found that in the half-grown plant there was little or no sugar; but when the plant was three-quarters grown, there was as much as 5.85 per cent. of sugar in the lower part of the plant. We have no analysis of Indian-grown plants; however it may safely be inferred that,

*Proceedings of the Madras Government, Revenue Department,
15th January 1870.*

if such a large amount of sugar was present in plants grown in a climate so ill-suited for the production of sugar as that of England, a very much larger quantity will be found in Indian-grown plants.

2. On the Government Experimental Farm at Madras, during the past twelve months, this crop has largely been grown, and, generally, with very satisfactory results. We propose briefly recording some of the facts ascertained and some of the conclusions formed regarding the culture of this crop for fodder. These conclusions are not founded on a single experiment, but on a large number, occupying, in the aggregate, nearly fifty acres of land. The season was certainly very unpropitious for cultivation of any sort, more especially for cultivation conducted on a soil so extremely sandy and porous as that constituting the Government Farm. The following is an average analysis of the soils upon which these crops were grown:—

	Per Cent.
Alumina...	3.24
Oxide of iron ...	1.35
Phosphate of lime ...	.12
Carbonate of lime ...	.31
Sulphate of lime ...	trace
Carbonate of magnesia...	trace
Chlorides...	.90
Water ...	2.09
Organic matter ...	2.12
Sand ...	89.87
	100.00

3. We now proceed to record the results obtained from two or three of our experimental plots.

EXPERIMENTS.

In December 1868 we sowed a plot containing 2,420 square-yards, or half an acre of land, with Yellow Cholum, and have, in the eleven months which have since elapsed, obtained five cuttings, yielding in all 10 tons 5 cwt. 56 lbs., or 23 tons 3 cwt. 14 lbs. per acre per annum.

Another plot of a similar size was sown in April last, and, during the seven months it has been growing, has yielded three cuttings, weighing 5 tons 15 cwt. and 20 lbs. At the present time there is probably about one-third of a crop in the field, making a total of 6 tons 7 cwt. 20 lbs., or a gross produce of 21 tons 16 cwt. and 8 lbs. per acre per annum.

Both of these crops were occasionally watered. The first crop was irrigated weekly during the first three months of the experiment, and about twice a-month afterwards. The other about twice a-week during the first four or five months, and not oftener than once a-month during the remainder of the time. At each time of watering, the water was applied at the rate of about 30,000 gallons per acre. Had a sufficient quantity of water been available, much better results would have been obtained. During the last few months the ground was frequently in such a dry parched condition—the result of the excessively dry season—that for weeks together the bulk of the crop was scarcely increased. The first plot received no manure, except about 4 cwt. of wood-ashes. To the other plot, which had just borne a crop of Maize, about 5 tons of farm-yard manure was applied.

Another plot of ground, measuring 2½ acres, was sown during the last week of June. No water was applied to this crop; it entirely depended on the rains and dews for its supply of moisture. Two cuttings have been obtained, weighing 8 tons 19 cwt., and there is still about 20 cwt. in the field, making a total return of 9 tons 19 cwt., during the five months the crop has been growing, or, presuming that the rains and dews will suffice for the wants of the crop for three months longer, an average yearly return of 7 tons 12 cwt. per acre. Manure was applied to this crop at the rate of 8 tons per acre.

*Proceedings of the Madras Government, Revenue Department,
15th January 1870.*

These are not exceptional results: the crops now growing on the Farm will probably yield larger returns than any we have recorded.

SOILS.

Yellow Cholum can be grown on all kinds of cultivated land, provided the soil is in a good condition, and is fairly manured and cultivated. If the soil is naturally rich in plant-food, as is made so by artificial means, the larger will be the returns.

CULTIVATION.

It is advisable to plough the land *well*: the number of times and the depth will depend on its condition, and must be left to the intelligence of the cultivator. Our practice, when the soil contains only a few weeds is, to plough to the depth of five or six inches, and cross with a broad-share cultivator at right angles the line of the plough; collect the weeds; broad-cast about 6 or 7 tons of foldyard-manure over the surface; plough in the manure, driving the plough across the lines of the first ploughing; harrow the surface, to make it level; and then sow the seeds in lines about twenty-six inches apart, finishing the work by passing the chain-harrows over the surface. If intended for irrigation, we proceed as follows:—plough five or six inches deep; cross with cultivator to level the furrows; collect weeds; drill the soil in ridges about 28 inches wide, either with a single or a double mould-beard plough; spread the manure in the lines between the ridges; split the ridges, with the plough, throwing a furrow on the manure on either side the track of the plough, forming the open furrow, down which the water passes while the crop is being irrigated. The land is thus left in *ridge and furrow* as is the custom in England, for the cultivation of Turnips or Mangolds. The seed is sown on the top of the ridge over the manure. Whether sown on the level surface or on the ridge, from twenty-six to thirty pounds of seed per acre will suffice. During the growth of the crop the ground between the lines of plants should be kept as free from weeds as possible, either by frequent use of the hand-hoe or bullock-hoe. If the land is tolerably free from weeds two bullock-hoings and one hand-hoeing will suffice between each cutting.

WATER.

Irrigation produces at least three times the weight of fodder obtained under dry cultivation. In the former case, the crop will continue to grow eleven or twelve months, and give six or eight cuttings; while in the latter, only seven or eight months, and yield three or four cuttings. Water should be applied once or twice a-week, according to the state of the weather and condition of the soil; if water can be obtained at a reasonable cost, we would apply it twice a-week for three weeks after sowing and after cutting, and once a-week afterwards. Dressings of from twelve to fifteen thousand gallons per acre will be sufficient for each application. However, as we have already stated, much depends upon the porosity of the soil and the humidity of the atmosphere.

MANURE.

There is nothing like a good application of foldyard-manure for producing a *good* crop, though, in the absence of this, pond-rotte, tank-mud, (which has been previously thoroughly exposed to the air), burnt earth, the refuse of brickyards, wood-ashes, leaves of various plants and trees, aquatic weeds (either fresh water or marine), bazar-refuse, etc., may usefully be applied.

HARVESTING, ETC.

We would advise that cutting should commence when the plant is about two-thirds grown. We use a small curved knife for the purpose; with it the coolies can easily cut down an acre in a day. The fodder is best used in the green state after dew or any adhering moisture has been removed by exposure for an hour or two in the sun. Horses, cattle, sheep, and pigs, eat it readily. It may be cut, dried, and stacked for consumption during hot weather when fodder is scarce. When dried in this manner, it is best given to the stock-chaffer.

*Proceedings of the Madras Government, Revenue Department,
15th January 1870.*

COST OF PRODUCTION.

Under dry cultivation the cost per acre is as follows :—

	RS.	A.	P.
Ploughing	1	0	0
Cultivating	0	6	0
Collecting weeds	0	12	0
Six tons of manure... ..	6	0	0
Spreading manure... ..	0	3	0
Ploughing	0	12	0
Harrowing	0	2	0
Seeds	1	0	0
Sowing	0	12	0
Chain-harrowing	0	2	0

AFTER CULTIVATION.

	RS.	A.	P.
5 Hand-hoeings	5	0	0
8 Bullock-hoeings... ..	5	0	0
4 Cuttings	2	0	0
	23	1	0

With a gross yield of 8 tons per acre the cost of the fodder will be Rupees 2 Annas 14 and Pie 1 per ton.

When irrigated the cost per acre will be as below :—

	RS.	A.	P.
Ploughing	1	0	0
Cultivating	0	6	0
Collecting weeds	0	12	0
Ridging soil	0	8	0
Six tons of manure	6	0	0
Spreading manure	0	3	0
Splitting ridges	0	8	0
Seed	1	0	0
Sowing	0	9	0

AFTER CULTURE.

8 Hand-hoeings	8	0	0
12 Bullock-hoeings	6	0	0
6 Cuttings	3	0	0
Raising 500,000 gallons of water, a height of 18 feet, and distributing the water, etc.	20	0	0
	47	14	0

With a gross return of 24 tons of fodder the cost per ton will be Rupee 1 Annas 15 and Pies 11.

SUMMARY.

1. Yellow Cholum is suited for cultivation on all cultivated soils and in all climates where the temperature does not often fall below 60 degrees.
2. Weight for weight it contains a larger proportion of nutritious matters than Turnips.
3. It is best cut for fodder when two-thirds grown.
4. When irrigated 24 tons per acre per annum can readily be grown.
5. As a dry crop, it will grow for seven or eight months, yielding about four cuttings, weighing 8 tons.

*Proceedings of the Madras Government, Revenue Department,
15th January 1870.*

6. When cut in the green state it is readily eaten by horses, cattle, sheep, and pigs.
7. Under dry cultivation one ton of the green fodder can be grown for Rupees 2 Annas 14 and Pie 1.
8. When irrigated one ton for the green fodder can be grown for Rupee 1 Annas 15 and Pies 11.

The Board have perused with much interest the report of the Superintendent, Government Farm, on the cultivation of Yellow Cholum, and resolve to recommend Government to have the paper printed in the form of a pamphlet and circulated for general information.

2. Copies might, as suggested by the Honorary Secretary, be sent to the local papers and kept for sale at the Government Press.
3. The summary should, the Board think, be translated and published in all *District Gazettes*.

No. 196. ORDER THEREON, 15th January 1870, No. 95.

Miscellaneous.

Mr. Robertson's report shows, by scientific analysis that, "Yellow Cholum" possesses high properties as a fodder, and its adaptability for growth in the plains has been thoroughly tested by experiments at the Government Farm. Under ordinary circumstances, an acre of irrigated land is calculated to yield in the space of twelve months five cuttings, aggregating a weight of 23 tons 3 cwt. 14 lbs. Dry land, if properly manured, is estimated to yield an average yearly return of 7 tons 12 cwt. per acre. Mr. Robertson considers that "Yellow Cholum" is not dependent on any particular soil, provided that the land on which it is grown be well ploughed and sufficiently manured.

2. The Superintendent's report will be printed for circulation. Copies will be forwarded to all Collectors for translation and insertion in the *District Gazettes*.

(True Extract.)

(Signed) R. A. DALYELL,
Acting Secretary to Government.

To the Board of Revenue.
,, the Honorary Secretary, Government Farm.

Ed. F. R. Bantleman,

From Mr. AG. de
 12th Dec 1870
 C. No. 871.

Govt. of 1870

REVENUE.

THE BOARD OF REVENUE.

Dated January, 1871.

Recd.

G. O. 15th January 1871, No. 87.

JANUARY.

NO. 155-136.

Yellow Cholera.—Report of the Superintendent of the Government Farm on its cultivation, ordered to be printed for circulation to Collectors and Dispersal in the District Gazette.

11

Rev. Sept. 1870
 95-95-
 Proceedings of the Madras Government
 Jan. 1870.
 Under date the 15th December 1869.

Read the following
 Proceedings of the Board of Rev.

Subseq. Report of Superintendent
 Govt. Farm, on cultivation of
 yellow Cholera, with recommenda-
 tion that it be printed in form
 of a pamphlet, re-circulated for
 general information.

H.E. 7. Decr. 1869. N. 8983.

A. A.

Mr. Robertson's
 report shows by scientific
 analysis that "Yellow Cholera"
 possesses high properties
 as a fodder, and its adapta-
 bility for growth in the
 plains has been thoroughly
 tested by experiments at

the

the Govt. Farm. Under ordinary circumstances, an acre of irrigated land, is calculated to yield, in the space of twelve months five cuttings aggregating a weight of 23 tons, 3 cwt., 14 lbs. Dry land, if properly manured, is estimated to yield an average yearly return of 7 tons, 12 cwt. per acre.

Mr Robertson considers that
"yellow Cholum" is not
dependant on any particu-
lar soil, provided that
the land on which it
is grown be well ploughed
and sufficiently manured.

The

2. The Superintendent's report will be printed for circulation. Copies will be forwarded to all collectors for translation and insertion in the District Gazettes

Chas

14. Letter to Prof. R. W. Davenport 18th Sept 1871. 19.
16. ———— Montpelier Court Farm ✓

33
 40
 6

Ed. Ball

This image shows a document page that is almost entirely blank. It contains several faint, parallel horizontal lines that appear to be either very light handwriting or scanning artifacts. The entire surface is covered with a dense pattern of small black specks and noise, characteristic of a low-quality scan or a heavily degraded document. No legible text or distinct figures are present.

1990

This image shows a blank, aged, cream-colored page, likely an endpaper or flyleaf from an old book. The paper has a slightly textured appearance with some minor discoloration and faint creases, characteristic of old paper. A dark, possibly black, binding edge is visible along the left side of the page. There is no text or other markings on the page.