

on the cut surfaces and the cut pieces kept on wooden racks for sprouting. These were compared with half ounce, one ounce and two ounce whole tubers (the variety used was Great Scot in all treatments).

The experiment was continued for nearly five years from 1944 to 1948 and the following are the conclusions from the data from these experiments:

The method of using sprouts for planting cannot be recommended in the Nilgiris, although Puskarnath* obtained "Good yields" from sprouts in Simla and even recommended this method for rapid multiplication of varieties. Under Nanjanad conditions constant attention and frequent irrigation were found essential. Under drought conditions sprouts are a failure. During the main crop and the irrigated crop seasons fair yields are obtained but they are uneconomical. Yields from tips were found to be always lower than those from whole tubers weighing two ounces. From a number of experiments extending over a period of five years, it is proved that 2 oz. tubers give the maximum economic yields.

It may therefore be concluded that neither sprouts nor tips are capable of being used in place of the usual method of using 2 oz. whole tubers in the Nilgiris. Fair yields can of course be secured, but for large scale planting by ryots, the methods are not suitable as the returns are uneconomical.

Some aspects of the fodder problem in the Madras Presidency†

By

T. VENKATARAMANA REDDY, M. Sc.

(Lecturer in Botany, Agricultural College, Bapatla)

India is primarily an agricultural country, where cattle form the backbone of agriculture, both as prime movers for all farming operations and as suppliers of milk and manure. In recent years, the food problem in India has assumed serious proportions; but in fact the fodder problem is even more grave. Our deficit in fodder is over 100% and production must be more than doubled if our

* Pushkarnath 1945. *Current Science*, 14 : 236-237.

† Abstract of paper presented at the 32nd College Day and Conference.

livestock
forward
are hav
forthwit
that hei
bull cal
underfe
needless
the nec
with m
large st

increas
waste
crop re

necessa
number
and re
means
bokes
here it
matter
vation
with s
set ap
found
Kand
Dhara
The g
recent
cultiv
by int

93%
some
cereal
sourc
increa
metho

livestock is to be fed adequately. Various views have been put forward to explain this fodder scarcity: one of which is that we are having too many useless animals that should be slaughtered forthwith. The real reason seems to be the lack of attentions that heifer calves get during the growing stages as compared with bull calves and the consequent slow growth and late bearing of such underfed animals. As a result of this chronic poor feeding, a needlessly large stock of cows have to be maintained to secure the necessary number of work bullocks. Under proper management with more liberal feeding, there would be no need to carry such a large stock of cow population.

The chief sources from which our fodder supply could be increased are (1) Forest grazing, (2) Grazing in Poramboke and waste lands, (3) private patta grazing lands and (4) fodders and crop residues from agricultural lands.

To improve grazing in forest areas, rotational grazing is necessary to give time for the grass to regenerate. Restricting the number of grazing cattle to the carrying capacity of the pastures and reseedling with nutritive fodder grasses and legumes are other means of which a rapid improvement can be effected. On porambokes and wasteland areas overgrazing is even more rampant and here it is essential that stringent control should be exercised in the matter of grazing, along with adopting such soil and water conservation measures as are necessary and reseedling over-grazed areas with suitable grasses and legumes. Private patta lands that are set apart exclusively for grazing are very limited in area; being found only in the important cattle breeding tracts of Ongole and Kandukur where the Ongole breed of cattle is reared and the Dharapuram-Palladam tract for the Kangayam breed of cattle. The grazing in these areas is generally good, though even here in recent years, much of the pasture area have been broken up for cultivation. There is plenty of scope for improving these pastures by introducing more nutritious grasses and legumes.

Fodder from cultivated lands: In our province, more than 93% of cattle depend on agricultural land for their fodder and only some 7% resort to forest grazing. Crop residues such as straws of cereal crops, haulms and bhusa of pulse crops etc., form the chief sources of fodder. The position at present is such that even if an increase of 50% is secured in straw yields by adopting intensive methods of cultivation, we are still faced with a huge deficit of 20

million tons of dry roughage per year. It is here that we have to examine the scope of mixed farming as a possible solution. In a mixed farming system, the farmer grows all the fodder that is needed for his livestock, on his own land. The manure obtained from his livestock is returned to the fields year after year and thus the fertility of the soil is maintained at a high level and crop yields increased. The results obtained in mixed farming experiments both in India and abroad, have shown that mixed farming is the only way to bring back the fertility of soils and secure high yields of grain and straw. A healthy relationship between animal, plant and soil is essential for success in farming and mixed farming is the only lasting solution for maintaining this relationship and solve our urgent food and fodder problems.

Some useful plants for green manure purposes, for the saline tracts of the Presidency

By

S. N. CANDRASEKHARA IYER, M. A.,
Government Lecturing and Systematic Botanist.
and

C. RAJASEKHARA MUDALIAR, M. A.,
Assistant Lecturing and Systematic Botanist.

"GROW MORE FOOD" is the slogan which we hear everywhere now, partly due to the after effects of World War II and partly due to the shortage of food crops on account of the ever-increasing population. India is passing through a critical period with regard to her food problem. India's production of food crops has not yet reached a level so as to be reckoned as self-sufficient. To keep pace with the rapidly increasing population, there should be a corresponding augmentation in production. The countries from which she was getting her food supplies, especially rice, from Burma, Siam etc., to meet her deficit, have also suffered during war and countries all over the world are not happy to ensure imports. There is besides, economic considerations, and we cannot be indefinitely importing. With the available cultivable lands, we are faced with problems of increasing food production by adopting all possible ways and means. Among the various methods suggested, the problem of manuring the fields has to be given a very prominent place in this work as it is a well known fact that our lands are impoverished.

A
eminent
populati
and it fo
Rice is c
and wet
irrigated
culture
of rice,
leaf is e
green m
and shr
near th
green m
well in
soils th
salinity
manur
Pillipe
adjoin
tions c

regard
or 'Se
East
rivers
Presi
innur
water
is fel
when
the r

to th
Chir
influ
coco
dist
is a
The