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THE IDEAS CORNER

The usage of *Crotalaria*

1. INTRODUCTION

Crotalarias can be used in a variety of ways. Now when we are searching for a suitable feed for cattle from the crops which are utilized already in some other way as it is, for instance, in the case of molasses, *Crotalarias* should draw our attention also.

They are already cultivated in Tanzania and they have been proved suitable for feeding domestic stock.

The following note outlines briefly some of the present usage of *Crotalarias* by the farmers in Tanzania.

These include its use as a stock-feed, weed killer, fertilizer and high altitude crop. It is suggested that the above together with its fibre producing, and therefore industrial, capacity offers a fair range of possibilities which should be looked into more closely.

II. Crotalaria in India and East Africa

Sunn *(Crotalaria juncea)*, a leguminous plant, is cultivated widely in India, which exports yearly about 30,000 tons of its fibre. Although the plant itself is not related to hemp *(Cannabias sativa)* its fibre, commonly used for making canvases, rugs, tissue and cigarette papers and for other similar products, is sometimes known under the name of Indian hemp or sunn hemp.

Sunn is cultivated from seeds often in rotation with maize and cotton, and can serve as a green fertilizer. It grows well in sandy soils and in arid climates.

Crotalaria *(Papilionoidae)* species are found in East Africa. Some of these, but not all, are palatable and nutritious to stock while a few are poisonous. Pratt and Gwynne (1977) list the following species of *Crotalaria:*

1) *C. brevidens* with branches up to 2m. tall and a cylindrical pod; found at altitudes between 600-2700 m; nutritious and palatable.

2) *C. cephalotes*: only 1m. high with range between 400 to 2000m. It can be used for stock and also as a vegetable for people.

3) *C. deserticola:* a plant similar to the above, growing at the altitude up to 2400 m.

4) *C. incana* about 1.5 m high with long yellowish hairs on the stem. Range 900-2300m.

5) *C. laburnifolia:* grows up to 3m tall. Its cylindical pod can be as much as 15cm long and contains 40 or more seeds. It can be found at altitudes below 1900m.

All together there is about 400 species in genus, 200 of them in East Africa.

III. SOME EXPERIMENTS WITH CROTALARIA IN TANZANIA

Some data on the cultivation of *Crotalaria* in Tanzania are already available. This legume was tried as early as 1940-1950, and reintroduced again after 1970 by the Benedictine Fathers in Peramiho. Presently due to the initiative of Brother Herman and other Brothers some 50 acres are used there for planting the species of large seed variety. In Peramiho *Crotalaria* is planted at the onset of the rainy season, therefore earlier than maize, and used as green fertilizer or as green fodder. As a rotation crop with maize it is usually planted every third year. Observations have also shown that cattle prefer *Crotalaria* to any other feed and graze on it veraciously.

Father Rupper and his collaborators have also noticed that this plant destroys most of the weeds and that the maize fields, where maize is planted in succession to *Crotalaria* species, are almost completely free from the noxious plants.

In other experiments, of Father Rupper, which involve 310 farming units some 400 kg of *Crotalaria* species seeds has on the average been obtained from an acre sown with 16 kg of seeds, and currently the region of Peramiho supplies seeds to other areas of Tanzania.

Further trials have included the testing of *Crotalaria* species' adaptability to higher altitudes and of its usefulness for weed control with respect to the multicropping method. These have shown that *Crotalaria* can be grown successfully at a level of about 1600m, and can be planted together with maize and banana.

IV. DISCUSSION

Crotalaria is already cultivated in Tanzania and a number of interesting observations on its usage have by now been made. Its usefulness as a fibre producing plant is well known; its applicability for fertilizing poor soils in Tanzanian conditions has been confirmed; it has also been found that it can be cultivated at an altitude of 1600 m and possibly at higher ranges.

Observations made by Rupper (1979) indicate that:

a) it can be used in rotation as well in multicropping

b) that it is a useful tool in weed control and therefore an important labour saving devise; and

c) that it offers a good feed for cattle

It seems therefore that under the present circumstances, which include high cost of fertilizers; require an anti-weed campaign and the related to it labour;

call for reduction of costs in animal husbandry by utilization of the crop by-products, as well as for better agriculture in the arid areas, much more attention should be given to *Crotalaria* species as they may offer better possibilities than molasses which can cause some side-effects.

It may be that more knowledge and more application of *Crotalaria* could bring solutions to many present problems experienced in Tanzania. As some of the *Crotalaria* species are poisonous it is most desirable to identify the species used for the above described experiments, and subsequently to compare the results obtained by the cultivation of different varieties of *Crotalaria*. The usage of *Crotalaria* sp. for consumption as vegetable can also be more closely investigated.

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