

Crop Production in Kovvur Taluk (W. Godavari).

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Introduction. Of the different problems concerning Indian agriculture, the need for increase in the production of food crops is one that is receiving wide attention at the present time. The problem has sprung into prominence with the outbreak of the war, and assumed importance all over the country. With the introduction and spread of cash crops, the area under food crops gradually went down. Among the cash crops the Virginia tobacco in certain parts of this presidency is to a certain extent responsible for this change. The assured and ready market which facilitated the conversion of the cured stuff into coin, coupled with its suitability as an alternative crop to some of the food crops grown in the dry lands, that fetched very low returns, gave the necessary impetus to the farmers to take up to the cultivation of virginia tobacco. These two encouraging factors were mainly responsible for the rapid and extensive spread of this crop in Kovvur taluk of the West Godavari district during the past five years. Many a farmer has even migrated into the neighbouring taluks in quest of suitable land for raising this crop.

In general the enormous increase in the cultivation of Virginia tobacco during the last four years reduced considerably the acreage under food crops, and exercised a deleterious effect on the soil which was cultivated without rest or rotation. Insufficiency of fodder and grazing for cattle was also keenly felt.

With a view to ascertain these effects in detail a close study was made of the agricultural conditions before and after the introduction of the tobacco crop and the results of this study are presented in this paper.

Season and rainfall. The season generally commences with the South West monsoon which sets in by about the beginning of May. The monsoon brings a fair amount of rainfall which helps the sowing operations of *Budama* paddy, redgram, gingelly and cotton. The North East monsoon sets in by about the middle of September and in this season also a fair amount of rainfall is received. An early break of this monsoon with heavy precipitation interferes with the harvest of the dry land crops, causing a great loss to the dry land farmer. With the cessation of the North East monsoon the winter crops such as coriander, horsegram and blackgram, are sown by about November. The summer season begins by about March and the period extends till the break of the South West monsoon. A few mango showers are generally received during the summer months. The *tholakari* (June to September) is best suited for the sowing of crops in the dry lands that form a major part of the taluk. The Virginia tobacco crop that is cultivated in the dry land stands in the field from October to middle of March. The general seasonal conditions that prevail during this period are very

favourable for successful cultivation of this crop. The average monthly rainfall of ten years (1932-41) is given below.

Rainfall average of ten years.

Month.	Rainfall in inches	No. of rainy days.	Month.	Rainfall in inches.	No. of rainy days.
January	·002	·01	July	9·124	19·90
February	·963	2·90	August	6·889	15·10
March	·889	2·00	September	6·428	12·90
April	1·274	3·20	October	6·885	10·20
May	2·057	3·60	November	2·858	4·80
June	5·813	11·80	December	0·097	0·80
Total	10·996	23·51	Total	32·281	63·70

System of cultivation. The wet cultivation occupying a minor part of the total area is mostly confined to the western corner of the taluk. The chief crops of the wet land are paddy and green manure crops. Fruits and vegetables are cultivated in the garden lands irrigated from wells. Other crops of the garden lands are chillies, onions, and turmeric. The major part of the taluk is under dry cultivation, the chief crops being paddy, millets, tobacco and coriander. The soils of the dry land are of two types, black and red. It is in the dry fairly heavy black soils that the Virginia tobacco crop has taken a firm footing replacing the dry paddy and millets. The relative distribution of the total cultivable area under the different systems of cultivation is given below:—

Utilisation of land area in Kovvur taluk (1940-41).

Nature of utilisation.	Area in acres.
Total cultivable area	116189
Not available for cultivation	12345
Cultivable waste other than fallow	1283
Net area cropped	124381
Area unirrigated	107907
Area irrigated	16474
Canals	6499
Tanks	8178
Wells	1132
Other sources	665

Crops and rotation. Under the wet system of cultivation paddy is followed by *pyru* gingelly, sunhemp for fodder or green manure, green-gram, or blackgram. The garden land farmer generally follows a three course rotation of chillies, groundnut and vegetables like brinjals, *bendai* or gourds. Prior to the introduction of virginia tobacco, the entire dry land used to be sown with a variety of crops soon after the break of the South West monsoon. Dry paddy and gingelly are grown as pure crops. Red-gram is raised both as a pure and a mixed crop with dry paddy, *gogu* and other pulses. The tobacco crop is now grown with practically no rotation.

Effects of Virginia tobacco on crop production. Four outstanding changes in crop production after the introduction of Virginia tobacco are presented below,

1. *Changes in crop production.* There was a fall in the production of food crops and the extent to which the non-food crops, particularly the Virginia tobacco, was responsible for this change, during the past seven years (1935-42) is shown in the statement given below.

Crop Areas of Kovvur Taluk (1935-1942).

Particulars.	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42*
1. Total area sown with all crops	128074	128479	115788	127226	120370	128745	128812
2. Food crops	90296	92197	78605	85246	83107	83499	79212
3. % of food crops to the total area sown	70.5	71.7	67.8	67.0	69.0	64.8	61.4
4. Wet paddy area	15840	15786	15886	15898	15872	15903	15912
5. Dry paddy area	21032	22076	20285	23523	19936	20150	18304
6. Non-food crops	37778	36282	37183	41980	37263	45246	40600
7. % of non-food crops to the total area sown	29.5	28.3	32.2	33.0	31.0	35.2	38.5
8. <i>Natu</i> tobacco area	2768	2740	2570	2798	3179	2016	2112
9. Virginia tobacco	Nil	6	105	200	1750	8540	12474
10. Total tobacco area	2768	2746	2675	2998	4929	10556	14586
11. % of Virginia total non-food crops	Nil	0.01	0.28	0.47	0.46	18.8	27.1
12. Net area sown	121002	120477	109676	120105	115943	122381	123122

* Estimated figures. All figures in acres.

The figures reveal that,

i. The percentage of area under food crops showed a gradual decline from 1935 to 1942 while that of the non-food crops showed a corresponding increase, the total area sown varying very little during the period.

ii. Among the food crops, dry paddy particularly suffered considerably, having been replaced by Virginia tobacco, (the wet paddy area remained the same during the period under review).

iii. Of the area under non-food crops, the Virginia tobacco figured prominently with a maximum percentage of 27.1 during the year 1941-42. The variations in area under *natu* tobacco are very little.

iv. The decrease in the acreage of food crops was marked from the year 1939 with the spread of Virginia tobacco crop.

2. *Quality of the tobacco crop.* In the heavy clayey and highly retentive black soils of the Guntur district, reputed to produce the highest class of tobacco, the quality appears to have fallen in recent years owing to soil deterioration consequent on the continuous growing of the crop on the same land year after year. The deterioration of the quality of the crop produced on these ideal soils was pronounced only after a decade. But in the soils of the Kovvur taluk, the quality of the crop produced seems to have deteriorated even in such a short period of four years after its introduction. This is reflected in the larger proportion of low grade tobacco

obtained when the crop is raised on the same land for three successive years.

In no crop is quality so important as in tobacco. The net income is more dependent on the quality of the produce than the outturn per acre. Hence the need for adopting proper cultivation methods and rotations.

3. *Problem of cattle fodder.* That agriculture and cattle are interdependent is well known. It is admitted on all hands that the livestock of our province is particularly underfed as the amount of food produced is insufficient for the large number of animals maintained by individual farmers inconsistent with their needs. By the fall in the production of food crops, the quantity of straw and other bye-products of these crops which served as fodder for the cattle of the taluk, has decreased. Besides even the existing the adequate grazing grounds are illmanaged. The situation can be improved by the reduction of the livestock to the bare necessity of the farmers and by a change in the present agricultural policy with a view to grow more food crops in each holding and to include fodder crops in rotation.

4. *Rental value of dry lands.* A noteworthy feature of the introduction of the Virginia tobacco crop in the dry lands of the taluk is the abnormal rise in the rental values. This recorded a minimum of Rs. 80 and a maximum of Rs. 120 per acre during the current year, 1941-42. With the increase in rental value the price of land has shot up to Rs. 500 per acre which is eight to ten times the value of the land prior to the introduction of this crop. Of late the marked fall in the outturn and the quality of the leaf, coupled with the increased cost of production of the same owing to the enormous rise in prices of the basic materials required for curing and processing of the leaf, have caused distress among growers of Virginia tobacco. Though the profits have fallen they are still higher than for any other food crop of the dry lands.

Another effect of the spread of Virginia tobacco, is the growing scarcity for labour for agricultural operations in the taluk. The abnormal rise in the wages is apparent during the tobacco curing season (January to April).

Conclusion. The spread of Virginia tobacco crop is the one limiting factor for increasing the area under food crops in the Kovvur taluk of the West Godavari district. An effective switch-over to food crops in the cropping plan of the taluk is an immediate necessity. Other cash crops, each in its own way and in its particular tract, are similarly responsible to a certain degree for this live problem of food production. It is not the object of this paper to discourage the growing of cash crops but to stress the need for the adoption of balanced agriculture by all the farmers with a view to be self-sufficient.

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