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SELECTED ARTICLE

The Preparation, Sowing and Care of Cigarette Tobacco Seed Beds.

By W. M. ROGERS,

Tobacco Officer.

It is of the utmost importance that proper care should be taken of seed beds, in order to produce a successful crop of tobacco. No detail should be overlooked and no operation imperfectly done in raising the young plants to the planting out stage. For the successful growing of a uniform crop of tobacco, every endeavour should be made to obtain uniformity in size and strength of the seedlings to be transplanted. The site selected should be a well-drained land, close to a permanent supply of water. The same site should be used only one year and then rested at least for two years The site should be away from big trees which have extensive root systems and too much shade. An eastern or north-eastern exposure is best, as the early morning sunshine is very desirable for the plants.

The seed beds should have an abundance of available plant food at the time the seed germinates and a sufficient supply to maintain steady growth of the seedlings during the period they remain in the beds First of all the site should be cleared of weeds and rubbish. The area cleared should be in excess of the actual area required for the nurseries. Then the land should be ploughed once, about a month before the actual nursery operations begin. After the first ploughing a fairly heavy dressing of well-rotted farm-yard manure should be broadcasted evenly and the area ploughed again some time before the final operations commence. After this the site should be well levelled and eventually lined off into beds with broad shallow drains between the beds to serve as pathways. Fairly deep open drains should also be cut around the four sides of the site.

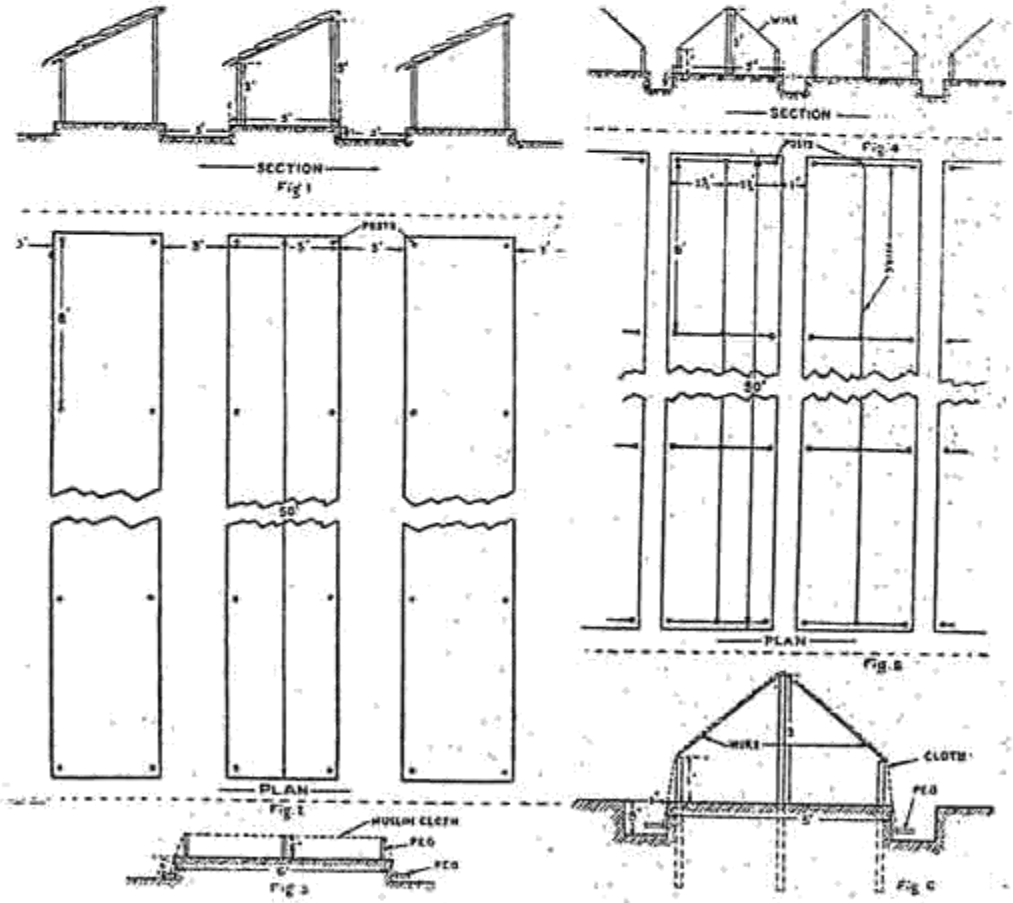
It has been found very convenient to carry on operations and handle plants in beds which are 5 feet wide and 50 feet long with a shallow drain 3 feet wide between the beds.

On opening the pathways between the beds the top-soil should be thrown on the beds. Each bed should then be brought into fine tilth and properly levelled prior to being sterilized. If the soil is too dry it is essential to water the beds and then work the soil into a fine tilth with weeding forks.

The beds should be well sterilized to a depth of 3 inches by the open fire method. This will destroy the seeds of weeds and also kill the destructive organisms inhabiting the soil. The burning should be done when there is no wind blowing, so that full benefit may be derived from the heat generated by the burning material. The beds are well sterilized by burning maize stumps, sunnhemp stumps or brush-wood and coconut husks placed in sufficient quantities to sterilize the soil to a depth of about 3 inches. Tobacco stalks should on no account be used for sterilizing mainly for the reason that diseased portions of leaves may be left about on the site and infection of the young plants may result. When the beds are properly sterilized the soil will be of light brick-red colour and will be very friable and easily pulverized. To clear any doubts as to the depth to which the soil has been sterilized by the fire, a very simple test can be made by burying a potato about 3 inches below the surface of the soil in the

seed bed before burning and if the potato has been well cooked and the skin peels easily, then the soil has been sterilized.

After the beds have cooled, a fertilizer mixture made up of ½ lb. of nitrate of soda, ½ lb. of sulphate of potash and 1 lb. of super phosphate is spread over each ten square yards of seed bed. This should be lightly dug in, taking care not to bring to the surface any unsterilized sub-soil, the fertilizers and residual ash being thoroughly mixed with the surface soil. The seed beds are now reduced to fine tilth and properly levelled with a hand rake. Now the beds are ready for sowing. Most growers still make the mistake of sowing their beds too thickly. Such beds produce delicate and tall plants unsuitable for transplanting. Good and healthy seedlings will be obtained when an ounce of properly cleaned seed is sown in an area of 100 square yards, which should produce enough transplants for 5 acres of field. To secure even distribution of seed it should be mixed with wood ash, a teaspoonful of seed being mixed with a quart of ash, and sown in a seed bed 50 ft. by 5 ft. This mixture should not be sown in one effort and it is very much better to go over the bed 4 or 5 times to secure an even distribution. If wood ash is not available, light white sand may be used. Sow the seed very carefully, gently press the seed into the soil with a smooth hand board 16 in long and 8 in. wide into which a handle is fixed. Water the bed lightly with a can fitted with a fine perforated rose. The seed beds should be roofed over with movable cadjans supported on a frame of sticks driven into the ground and tied together. The roofs should be about 5 feet high to allow of watering, weeding and spraying being easily carried out.



Plan and section of Virginia tobacco nurseries.

—*Tropical Agriculturist.*

To obtain a uniform germination of seed the beds should be watered regularly during the early mornings, late in the afternoons and, in very hot weather, at any time they show signs of drying off. The beds should be kept moist at all times, but not wet.

According to the area to be transplanted and the size of flue barn and owing to the uncertainty of weather conditions it is necessary to have plenty of seedlings available for a period of at least 8 weeks. It is therefore necessary to have at least 5 or 6 sowings at intervals of 4 or 6 days and to sow at least 4 or 5 times more than required. It is probable that about 30,000 seeds (one teaspoonful) are sown in one bed 50 feet by 5 feet in area, but it is not advisable to count on being able to draw more than 7,000 plants from this area. If germination has been good and when seedlings are about 3 weeks old thinning out should be done. Over-crowding in the bed will produce weak plants. The beds should be covered during the night with cheap muslin cloth to keep off insects. The beds should also be kept free from weeds. Experiments have been carrried out during the past *maha* and present *yala* of growing tobacco seed without cadjan coverings but using a cheap white calico cloth and covering the beds as illustrated. The cloth is sufficiently strong to carry off heavy rains and is stretched across the wires and pegged down at ends and sides of beds at intervals of about 4 to 5 feet. The experiment, which is being continued, so far is proving reasonably satisfactory.

In order to guard against pests and diseases the beds should be sprayed weekly when the leaves of seedlings have attained the size of one's finger-nail with the following mixtures recommended by the Mycological and the Entomological Divisions of the Department of Agriculture (Ceylon).

First two sprayings:—
¼ oz. lead arsenate
1 oz. Bouisol colloidal copper
1/8 oz. Agral
in one gallon of water.

When the plants are fairly big the following mixture may be used:—

½ oz. Lead Arsenate
1 oz. Bouisol Colloidal Copper
1/8 oz. Agral
in one gallon of water.

The spraying should be continued up to the time of transplanting.

During the early stages of growth of the seedlings, the cadjan roof should remain over the beds all day.

The hardening of plants should commence when the plants are about half an inch in height. When the plants come to this height, remove the covers daily during the morning for a few hours, increasing the daily period of exposure until the plants have hardened sufficiently to be left open all day long with no bad effects. Care should be taken not to expose the plants to heavy rains Plants are ready for transplanting in six to eight weeks. The best way to test if a plant is fit for transplanting is by bending it; if it breaks with a snap then the plant was suitable for transplanting. Before pulling the plants water the beds thoroughly and pull plant by plant taking care to pull only the strongest and the healthiest ones. Pack them carefully in baskets and despatch them to the field for transplanting.—*Tropical Agriculturist*, 94 (1940): 365–368.