AGRONOMIC INFORMATION
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TRANPLANT PRODUCTION

The production of an ample supply of uniform, healthy plants that are available reasonably early in the transplanting season is the first step for a successful crop. The best practice is to produce your own transplants. Doing so will reduce the likelihood of importing disease and pest problems onto your farm. The next best alternative is to buy transplants from someone in your local community. If you must import transplants, purchasing certified disease free transplants is strongly recommended.

An outline of plant bed management practices which have proven to be effective over the years is given below. If these suggestions are followed, most of the risks in plant production should be reduced or eliminated.

1. Locate the bed on a deep, fertile soil with good surface and internal drainage and a southern or southeastern exposure. The site should be near an adequate water supply and protected by windbreaks on the north and west sides.

2. Seed 75 to 100 square yards of plant bed for each acre of tobacco to be planted. (Proper plant bed clipping may reduce plant bed area needed to 60 to 80 sq. yds. per acre).

3. Prepare a good seed bed. The soil should be well pulverized, smooth, and free of clods. Flat and saucer-shaped beds should be avoided. To assure good surface drainage, beds should be broken to the center with a moldboard plow so that the center of the bed is 2-3 inches higher than the surrounding area. Heavy equipment that will tend to pack the soil should not be used in the later stages of plant bed preparation.

4. Fumigate soil with methyl bromide when soil moisture is right for cultivation and the air temperature is 55°F or higher, preferably in the fall.

5. Apply 50 lbs. of 12-6-6 fertilizer per 100 sq. yds. and disc into top 2 to 3 inches of soil. If extra nitrogen is needed, 3-6 pounds of calcium nitrate (15.5-0-0) per 100 sq. yds. can be used as a top dressing. To avoid plant injury and possible loss of transplants organic forms of nitrogen are not suggested for use on plant beds.

6. Sow 1/6 to 1/8 oz. of seed per 100 sq. yds.; cover with a thin layer of straw and place cover directly on straw (15-20 lbs. of straw per 100 sq. yds.).
7. Beds covered with porous materials (Reemay, cotton, etc.) should be watered frequently in dry weather. Frequent, light applications during the germination period often mean the difference between a good stand and plant bed failure. One-fourth inch (about 140 gallons per 100 square yards) every other day should be sufficient for germination and establishment of plants. As the plants develop in size, about 1/2 inch of water twice a week is usually adequate. Water should be applied slowly enough so that it is absorbed and the force of the water does not dislodge seedlings. Plant beds should be watered when the soil is dry, regardless of the temperature. Plants can perish in cold weather as well as warm weather.

8. Control diseases and insects using only approved chemicals.

9. Consider clipping beds two to four times about five days apart beginning at a height of four inches and ending at a height of eight inches to improve plant uniformity and/or delay growth of plants. Clip approximately 1/2 inch above the bud of the largest plants.

The lack of sufficient water is perhaps the most frequent cause of inadequate plant bed stand and transplant shortage. Moisture is particularly necessary for seed germination and seedling establishment. Natural rainfall is often not adequate and must be supplemented with irrigation to ensure production of adequate transplants.

Deficiencies of sulfur or magnesium may be corrected by broadcasting 5 lb of Epsom salts per 100 sq. yds or 3 lb/100 sq. yds of Sul-Po-Mag. Three pounds of potassium sulfate per 100 sq. yds may also be used to correct a sulfur deficiency. Apply these materials to dry plants and follow with a light irrigation.

**PLANT BED MECHANIZATION**

**Narrow-raised Plant Beds**

A narrow (4 to 6 ft wide), raised plant bed has many advantages over the more traditional 5-yard wide bed. The narrow bed facilitates the use of tractor mounted equipment for spraying, clipping, and undercutting. In addition to reducing labor and increasing efficiency of transplant production, raised-narrow beds are better drained and easier to undercut than traditional beds. Raised beds, which are flat across the top, may be formed with a tilrovator or bedformer. Acceptable raised beds may also be formed by breaking the bed to the center with a turning plow and disking with the angle taken out of the back section of the disk.

**Mechanical Seeding**

Mechanical seeding that will insure a uniform rate of seed is becoming more popular in tobacco transplant production. Most precision seeded beds utilize pelleted or coated seed that can be metered for specific seed spacing.
Commercial seed companies are now marketing pelleted seed of most popular varieties. The Stanhay Precision planter has been used most frequently and has given good results.

**Clipping Plants**

Clipping (removal of a portion of the leaves above the bud) has been shown to increase uniformity among plants and increase the percentage of usable plants on a bed. Removal of leaves from larger plants permits light penetration to smaller plants allowing them to catch up and produce a higher percentage of desirable plants in one pulling. Clipping is also a good management tool to salvage overgrown plants or to hold back excessive growth of plants in the bed during adverse field conditions. Two clippings spaced 4 to 5 days apart can delay transplanting by 7 to 10 days.

Clipping can be accomplished with a modified high suction lawn mower or a tractor-mounted rotary mower with rear mounted gauge wheels. Tractor-mowed mowers work best on narrow (6 ft wide), raised plant beds, but can be used on wide (15 ft) beds by running one set of wheels down the center of the bed.

Plants should be clipped when the largest plants reach a height of 4 inches; repeated clipping can be done 4 to 5 days apart. Care must be taken not to cut the buds off. The mower should be washed with a 1:1 solution of household bleach and water before and after each use to minimize the possible spread of virus diseases.