

ANALYSIS OF THE MANAGEMENT
OF A COTTON-GROWING ENTERPRISE.

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ANALYSIS OF THE MANAGEMENT OF A COTTON-GROWING ENTERPRISE

Managerial Training Content of the Type
Jobs of an Enterprise of Growing
Cotton for Market



REVISED 1934

UNITED STATES DEPARTMENT OF THE INTERIOR . . . *Harold L. Ickes, Secretary*
OFFICE OF EDUCATION *George F. Zook, Commissioner*

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FOREWORD

The manuscript for this bulletin, consisting of an analysis of the managerial jobs normally encountered in an enterprise of growing cotton, was originally prepared in 1926 under the direction of C. H. Lane, Chief of the Agricultural Education Service, Federal Board for Vocational Education, by C. H. Schopmeyer, specialist in agricultural instruction, United States Department of Agriculture, in cooperation with Arthur P. Williams, regional agent for agricultural education of the Federal Board, who prepared the introduction and is responsible for the form used in the analysis. The bulletin was revised in 1930, and has been again revised in 1934 by Mr. Williams.

The material included is based on an extensive study of the work of practical farmers, particularly in the States of Texas, Louisiana, and Mississippi, and on conferences with specialists in the United States Department of Agriculture.

The bulletin is specifically directed to vocational teachers in all types of agricultural schools, to teacher trainers, and to State supervisors for the purpose of assisting in the selection and organization of training content in the field of activity considered. It is also intended to serve as an illustration of an effective procedure in analyzing managerial-training content of farm jobs.

GEORGE F. ZOOK,
Commissioner.

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- 968 Y. Cotton of American-Egyptian variety in United States. 5¢.
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- 1185 Y. Cotton more productive when thick spaced for small upright plants. 5¢.

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Job VII. Preparing the Land for Planting—Continued

Decisions (to be made)	Factors	Kind of information needed for applying factors
7. What kind of plow to use in flat breaking.	Plow on hand. Power available. Type of soil. Condition of soil. Cost of new plow.	Suitability of plow on hand with respect to size, soil condition, and power available. Power needed to draw a given sized plow under particular soil condition. Kind of plow adapted for efficient work in the type and condition of soil on the farm. Estimated returns to come from the purchase of a new plow. <i>Related information:</i> Materials used to make the different parts of the plow. Mechanical principles involved in the construction of the plow; as the wedge, incline plane, and screw. Forces acting on the soil particles as they pass over the surface of the plow, as gravity, weight of soil particles, friction between the soil particles and the surface of the plow, and shearing from contact of soil particles. Friction in relation to draft. Influence of the materials used in the construction of the plow on the amount of friction. Dependence of the movement of soil particles on the resultant of the components of the forces involved. Relation of the hitch to line of draft and line of load.
8. How deep to plow.	Kind of plow. Type of soil. Character of subsoil. Depth of soil. Power available. Material to be turned under. Insects.	Minimum and maximum depth to which the kind of plow used will do satisfactory work. Depth of plowing best suited to the type of soil on the farm, as indicated by the depth of soil and character of subsoil. Depth to which the soil has been previously plowed. Power needed to plow the land to different depths. Data to show the effect on yield on land similar to that on the farm, plowed to different depths. Depth at which the plow used does the most effective work when surface material is to be turned under. Depth of plowing needed to aid in destroying insects.
9. When to level off the bed for planting.	Condition of soil. Date of planting.	Condition of soil with respect to moisture and fineness. General seasonal weather conditions. Time after leveling, the soil will remain in best condition for planting.
10. What implement to use for leveling.	Implements on hand. Condition of soil. Weediness.	Suitability of implements on hand for leveling. Kind of implement needed to effectively work down the soil to the particular desired condition. Implement which will be effective in destroying weed growth.
11. How high to leave the beds.	Rainfall. Type of soil. Condition of soil. Weediness. Kind of planter used.	Variations to make in the height of the bed, depending upon the condition of the soil. Height of bed to make for given types of soil. Height of bed needed for proper drainage. Amount of leveling to do to destroy the weeds. The amount of leveling of the bed which the planter will do.

Job VIII. Planting the Seed

Decisions (to be made)	Factors	Kind of information needed for applying factors
1. What method of distributing fertilizer to use after the land has been bedded.	Kind of distributor used. Kind of fertilizer used. Kind of bed.	Location in the row where the fertilizer will not injure the seed. Where the particular kind of fertilizer should be applied in the row for the best results. Distribution of fertilizer which is suited to the kinds of beds made. <i>Related information:</i> How plants draw nourishment from the soil. The process of osmose. Harmful results which may come from a heavy application of fertilizer too close to the roots of the young cotton plants.

Job VIII. Planting the Seed—Continued

Decisions (to be made)	Factors	Kind of information needed for applying factors
2. When to plant.	Condition of soil. Local practice. Warmth of soil. Frost. Weather. Variety.	<p>Fineness of soil which is suitable for planting. Moisture condition of soil which is suitable for planting. Period during which most of the cotton in the locality is planted. Warmth of soil necessary for the proper germination of cottonseeds. Normal date of the last killing frost in the spring. Normality of the season with respect to rain and temperature. Time required to mature the particular variety planted.</p> <p><i>Related information:</i> Conditions necessary for germination. Effect of an excessive amount of moisture in the soil on the germination of the seeds. Normal date when the soil is warm enough for planting cottonseeds.</p>
3. What kind of planter to use.	Planter on hand. Amount of land. Method of applying fertilizer. Method of bedding up. Attachments. Cultivator used.	<p>Suitability of planter on hand with respect to condition of repair, size, and attachments. Amount of land which will make the use of a 2-row planter profitable. Planter which will distribute fertilizer and plant the seed in the same operation. Planter attachments which will work well on the kind of beds made. Planter attachments which will firm the soil around the seed. Row spacing required by the kind of cultivator used.</p> <p><i>Related information:</i> Movement of soil water by capillary attraction. Influence of the compactness of the soil on the rise of moisture by capillary attraction.</p>
4. How deep to plant.	Region. Type of soil. Moisture. Fineness of seed bed. Weather. Local practice.	<p>Regional seasonal rainfall and its relation to the depth of planting. Relation of the different soil types to moisture-holding power and to rate of warming. Influence of the amount of moisture in the soil on the depth to cover the seeds. Relation of the fineness of the seed bed to the depth seeds should be covered. Influence of the temperature and weather on the depth of planting. Common practice in the locality as to the depth of planting.</p>
5. How wide apart to make the rows.	Local practice. Variety. Root development. Rainfall. Fertility of soil. Cultivator used.	<p>Distance apart farmers in the locality commonly plant cotton. Data from experimental trials to show the results of planting in rows at different widths apart. Variation in the width of rows required by the different varieties. Width of row needed to permit suitable root development. Distance apart rows should be made on soils of various degrees of fertility. Relation of rainfall to the size plants grow. Width of row required by the kind of cultivator used.</p> <p><i>Related information:</i> Effect of the thickness of planting on growth of plants.</p>
6. How much seed to plant per acre.	Germinability of seeds. Time of planting. Seasonal weather. Type of soil. Condition of soil. Local practice.	<p>Percentage of germination for the seeds to be used for planting. Favorableness of the temperature and soil moisture at planting time. Whether date of planting is earlier or later than the normal planting time. Whether the type of soil is such that a rain tends to make a hard crust on the surface. Fineness of the soil which will aid in a more complete germination.</p> <p><i>Related information:</i> Nature of the germination of the cottonseed. Ability of the young plant to force its way to the surface of the soil.</p>