EXPERIMENTS IN SPACING COTTON.¹

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Knowledge of the structure and habits of a plant is essential to a full understanding of cultural requirements. It is not sufficient to perform experiments, or to give directions. Established opinions and customs are not changed until the underlying facts and relations are brought clearly before the mind. A theory may become dominant, like that of wide spacing of cotton, even without facts to support it. Belief governs action in agriculture no less than in other fields of human effort. New facts or principles are not fully applied until they are generally and thoroughly understood, and the previous opinions are seen to have been defective.

General reasoning that may be applicable to other crops is distinctly out of place with cotton, because the plant has habits of its own. There is no direct or regular relation between the size of cotton plants and the yield of lint and seed, but very often a contrary or inverse relation, smaller harvests from larger plants. The key to this paradox is that the main stalk of the cotton plant produces two distinct kinds of branches, one kind able to bear an early crop of bolls, the other not. If growth is too luxuriant at first vegetative branches are developed at the expense of fruiting branches.

Rank growth of young cotton plants also leads to blasting and shedding of floral buds or young bolls, and even to general abortion of the early fruiting branches, in cases where young plants that have behaved normally in the first weeks pass into a very luxuriant condition, in warmer weather. The physiological state of plants making rapid vegetative growth not only is unfavorable to the setting of fruit but apparently involves injury and death of the fruiting parts, even when other unfavorable conditions are not encountered.

Chances of an early crop are much better with plants of moderate, restricted growth and only a central or main stalk, than with the large plants that develop numerous vegetative branches or side stalks. Plants that produce only a single stalk not only are in a better physiological state for producing and retaining floral buds and young bolls

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