

1943 Towards an insight in to Ideotype of Cotton

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Robust and compact cotton cultivars were compared in an experiment in which the two groups of plant types were grown in different plant spacings depending on their plant morphology. Similarly productive genotypes were found in each group, confirming that compact cotton phenotypes can produce high yields per unit area of production. Analysis of the path to productivity of these genotypes indicated that robust types occupied greater three dimensional space by virtue of greater plant height, longer monopodia and sympodial length, and greater sympodial internode length. Compact types, conversely, had shorter main culms and sympodial internode length. Even though the per sympodia and per plant boll numbers and boll weight were lower in compact phenotypes, boll number per unit area was higher. The best compact phenotype produced bolls with the most efficient use of its three dimensional space .The contrasting strengths of robust and compact types suggest a need for developing an intermediate plant type that blends the features of higher three dimensional space but lesser horizontal growth to improve seed cotton yield.