

MORPHOLOGY OF PIMA S-3 AND PIMA S-4

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Work was initiated in 1966 to determine how the environment influences fruiting in Pima cotton. Preliminary results suggested that square production and square abscission were related to daily minimum temperature and that boll formation and boll abscission were related to daily maximum temperature.

In a continuation of this work, we sought to determine the differences in fruiting patterns which were responsible for differences between Pima S-3 and Pima S-4 in fruiting height and yield.

At Phoenix, Pima S-4 produced more squares than did Pima S-3. The relative rates of square abscission varied between the two varieties depending on the location on the plant. Boll abscission was generally greater in Pima S-4 than in Pima S-3. However, in spite of greater boll abscission in Pima S-4, more bolls were harvested from Pima S-4 than from Pima S-3.

Square production at Safford was greater in Pima S-4 at the three nodes most distant from the main stem on each first-axillary fruiting branch and on second axillary fruiting branches. Square abscission was more pronounced in Pima S-4 at first- and second-axillary fruiting positions close to the main stem. Essentially no differences were observed between Pima S-3 and Pima S-4 in rates of boll abscission.