RATOOINED American-Egyptian cotton differs from the annual growth in staple length, lint percentage, seed fuzziness, and a number of other characters. This was demonstrated in a recent publication on ratooned S X P cotton (4). The authors suggest that the ratooned cotton reacted to the environmental conditions prevailing when it flowered, flowering having begun about a month earlier than in the annual cotton. This raises the question whether or not ratooned plants, resuming growth in spring on fully developed root systems, would behave differently than seeded cotton if the flowering periods of the two were to coincide.

With that consideration in mind, an experiment to effect a material delay in the development of ratooned cotton, so that it would begin flowering at about the same time as annual cotton, was carried out at Sacaton, Ariz. The means utilized for delaying the crop was early topping, or the removal of all new growth shortly after the first flowers appeared. A better method for making such a comparison is to plant the annual cotton early enough for its flowering period to coincide with that of the ratooned growth, but it is not possible to follow this procedure except in a frost-free locality.

MATERIAL AND METHODS

A plot of Amsak, an American-Egyptian variety similar in most of its plant characters and reactions to the commercial S X P cotton, was available for the experiment. The plot contained six rows of stubble and was 1,250 feet in length, or long enough for 12 100-foot sections plus a buffer at each end.

The dead stalks of the previous crop were cut back in early spring to within a few inches of the ground, which is the common local practice. New growth did not start as soon as desired for high yield, as the first irrigation was unavoidably delayed until April 22. Nevertheless, the first flowers appeared on May 13, 1943, 30 days earlier than in 1942 when the plants were grown from seed.

On May 20, one week after the first flowers appeared, all the plants in six alternate sections of the ratooned plot were topped by hand to within a few inches of the ground, resulting in the removal of virtually all new growth, which at that time ranged from 18 to 30 inches in height. On June 22, 33 days after treatment, the topped plants were about half as tall as the untreated ones and they appeared...