

Increasing the annual use of the module builder would reduce the total module-system cost to \$6.42 per bale for 200 hours per year and to \$6.14 per bale for 300 hours per year. If 8-bale trailers were used only six times per year, the trailer-system cost would be \$7.76 per bale.

These examples indicate that when module builders and transport trailers have reasonably high annual use, total picker-to-gin costs per bale can be significantly lower with the module system than with conventional trailers used only six to eight times per year. Ricking, on the other hand, has been found to increase picker-to-gin costs by \$3.50 to \$5.00 per bale (assuming no change in the number of trips per trailer per year).

Ginning costs

Cost summaries for 26 San Joaquin Valley gins (1971-72) were analyzed as a basis for predicting the potential effects of seed cotton storage on ginning costs. This analysis indicated that, with no change in total seasonal output, some gins could realize labor savings as great as \$3.00 to \$4.00 per bale if sufficient stored seed cotton were available to permit operating at a relatively constant daily output rate. Storage probably would result in only minor labor savings for some other gins.

Increasing the total seasonal output from a given gin by operating more hours per year (possible with seed cotton storage) would reduce plant overhead and administrative costs per bale. The analysis indicated that in most of the 26 cases a 50% increase in seasonal output from a given gin might be expected to reduce the cost per bale by \$2.00 to \$4.50. Doubling the seasonal output would reduce the cost per bale by \$3.00 to \$7.00.

A system involving module storage at the gin yard may have substantial added initial costs because of the relatively large, specially prepared storage area needed.

General considerations

Tests and grower experience have indicated that seed cotton can be stored in covered ricks or modules up to about two months with no reduction in lint or seed quality if the seed and seed cotton moisture contents do not exceed 11% and the trash content is not excessive. Longer storage periods may be satisfactory at lower moistures.

If a grower's trailers are still in good condition, the ricking system requires considerably less additional investment in equipment than does the module system.

Applying a GROWTH RETARDANT THROUGH CONTAINER IRRIGATION SYSTEMS

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SEVERAL DRIP AND SPRAY irrigation systems have been designed and successfully used to apply precise amounts of water and fertilizer to container-grown nursery plants. The usefulness of these systems for application of smaller amounts of other chemicals had not been tested. In these studies, tests were made of the possibilities for application of a growth retardant, ancymidol (A-Rest), through the irrigation system.

Two irrigation systems were tested. The drip system utilized Drip Stick emitters, and the other system utilized the T-Spray nozzles. In the check containers, the growth retardant was mixed with a known amount of water and then added to each container.

Only enough water was added to wet all the soil in each container. The dosage of ancymidol for all treatments was 100 mg per plant. The test plant was *Eucalyptus globulus*, growing in egg cans with a soil mix of 66% redwood sawdust and 34% sandy loam soil. For both irrigation systems, the ancymidol was injected into the irrigation system just ahead of the sub main leading to the plants. At the end of 28 days, the amount of growth and the number of nodes above the last elongating internode at the time of treatment was measured. Only the central leader was used for measurement.

Application of ancymidol through the drip irrigation system seemed as effective

But modules can be taken from the field immediately and are then available for ginning at any time, regardless of the weather and field conditions. The module system also has the potential for mechanized handling and automatic feeding at the gin.

Good management is more important with the module system than with the trailer system or ricking.

From the grower's standpoint, the ability to continue harvesting whenever the weather permits, rather than having to stop because no empty trailers are available, is the principal advantage of any

GROWTH DIFFERENCES IN CONTAINER PLANTS FROM APPLICATION OF GROWTH RETARDANT ANCYMIDOL BY TWO METHODS OF IRRIGATION

Treatment method	Nodes	Average Elongation (inches)	Coef. of Variability
Drip irrigation system	8.8	28.3	10.9
T-Spray irrigation system	8.6	36.4	8.4
Hand application	7.5	25.3	5.6

as the control when only the average elongation was considered. However, considerably more variation between plants occurred when the growth retardant was applied through the drip irrigation system (see table).

These results indicate the possibility of applying growth retardants through container irrigation systems. Greater variability should be expected between plants than would occur if the chemicals were accurately measured to each plant. Refinement in application methods using the drip system may improve the uniformity of response.

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seed cotton storage system. Harvesting can be completed at an earlier date, thereby reducing the probability of grade reductions and yield losses due to rain. Getting the cotton harvested sooner also facilitates preparation of the land for subsequent crops.

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