

SOUTHWESTERN COTTON RUST

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Cotton rust was much less prevalent and damaging in 1966 than in 1965. Even so, minor losses occurred in Cochise, Graham, Pima, and Santa Cruz Counties. In an experimental plot near Continental, zineb and several experimental fungicides were applied for control of rust. However, the disease failed to occur in damaging amounts in this field and no yield data were recorded.

Commercial application of zineb was made on an extensive acreage in this general area and excellent control of the disease was established. With above-average rainfall occurring during the latter part of the summer there was widespread development of the overwintering stage of the rust on grama grass in several of the southern counties.

Experimental work on other phases of the cotton rust problem is being conducted in laboratory and greenhouse tests.

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PLANTING TECHNIQUE, SEED TREATMENT AND SOIL FUNGICIDE

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In a seedling-disease control experiment at Marana, the effect of seed treatment and a soil fungicide was extended to include the effect of planting technique, that is, the capping or covering of seed rows vs. smooching of the rows with an inverted plow disk. The planting seed was of variety Hopicala and used at about 22 lbs./A. The seed was untreated or treated with Panogen + PCNB seed treatment. The soil fungicide was Terraclor Super X Granular and was used at the rate of 15 lbs./A. into the seed furrow or was omitted. The planting operation was completed by throwing a covering cap of soil over 1/2 of the rows while the remaining rows were smooched.

The data recorded on seedlings lost to damping off and the final stand at 30 days after planting are summarized below for the 8 treatments in this experiment.

Treatment						Stand of plants, thousands/A.	Damped off, %
Capped	Treated	seed		Soil fungicide		69.6	1.1
"	"	"	No	"	"	64.6	3.1
Capped	Untreated	seed		Soil fungicide		63.1	1.3
"	"	"	No	"	"	39.5	14.5
Smoached	Treated	seed		Soil fungicide		79.3	0.7
"	"	"	No	"	"	75.1	2.1
Smoached	Untreated	seed		Soil fungicide		79.0	0.7
"	"	"	No	"	"	55.4	10.1

The average stands for the 8 treatments vary from 39,500 to 79,300 plants per acre, with the poorest stand occurring when untreated seed was used without a soil fungicide in capped rows. The second lowest stand was this same combination on smooched rows, where 55,400 plants were recorded.

In general, the surviving stands were higher in the smooched rows than in the capped rows, but this may be due to an inadequate removal of the covering cap with a spike-tooth harrow. Treated seed gave better final stands than did untreated seed. The soil fungicide was highly beneficial when used with untreated seed but had very little effect when used in combination with treated seed.

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THE CONTROL OF ROOT-KNOT NEMATODE
(Meloidogyne incognita acrita)
ATTACKING ARIZONA UPLAND COTTON

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Three field experiments were carried out during 1966 in Marana, Arizona, to evaluate the efficacy of various nematocides alone and in combination for the control of root-knot nematode attacking irrigated cotton.

All materials were applied as pre-plant treatments. In Experiments #1 and #2 both UC-21149 and SD-7727 were broadcast as granules over the soil prior to the January plowing. In Experiment #3 the first application of Chloropicrin was injected at the rate of 225 pounds/acre at a depth of 16 inches below the seed bed. Ten days later the second application of 200 pounds/acre was made at a depth of 12 inches. The field was planted 30 days