were collected from white mold infested bean debris and buried at 0, 5, 12 and 20 cm depths in the soil. When recovered in the fall of the three subsequent years, a high rate of sclerotia survival was found.

At the end of the first year sclerotial recovery was greater than 90% at all depths. Germination to produce apothecia on water agar varied from 63% on the soil surface to 90% at 20 cm depth. After 2 years burial 74-86% of the sclerotia were recovered. Between 53 and 65% of the sclerotia germinated to form apothecia on agar. No sclerotia were recovered from the soil surface. Recovery and germination after 3 years burial averaged 78 and 85%, respectively at 5, 12 and 20 cm depths. A small number of sclerotia were recovered from the surface and most of these germinated. Low sclerotial recovery after 2 and 3 years may be partly explained by beetles feeding on them rather than microbial destruction.

Less than 5% of the sclerotia on the surface or at 12 and 20 cm depths had formed apothecial initials when recovered. At 5 cm, however, nearly 30% were recovered with initials, and at this depth the number of apothecia produced per sclerotium was the greatest (10.1 compared with 5 or less at other depths). Since the longest apothecial initial recorded was 6 cm, those sclerotia in the soil at this depth or shallower could reach the surface and produce ascospore inoculum.

Although these experiments were conducted under essentially fallow conditions, it appears that a 3-year crop rotation will not alleviate the inoculum load of the white mold organism.

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FIELD REACTION OF BEANS TO SEVERE WHITE MOLD INFECTION

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A plot was established at the Panhandle Experiment Station to study bean plant response to white mold disease (Sclerotinia = Whetzelinia sclerotiorum) at severe levels. The area planted to bean varieties and lines was surrounded by sweet corn to provide a windbreak and create humid conditions favorable for white mold. The previous year white mold had developed extensively on beans and abundant inoculum in the form of sclerotia was present in the soil. Optimum furrow irrigation was applied during the growing season. Although bean seed supply varied, in most instances four replications of 15 ft. rows were randomized in the experiment.

The white mold severity readings were recorded three times between August 9 and September 4 and are summarized in Table 1. Infection levels reached 100% in some varieties while a few lines

appeared tolerant. By September 4 only Phaseolus coccineus (scarlet runner) appeared to be highly tolerant while Charlevoix, a dark red kidney dry bean, exhibited good tolerance. The four Great Northern plant types compact indeterminate (Code 12), viny indeterminate (GN 'Tara'), semi-viny indeterminate (Code M) and determinate (Code P) were all severely infected although the determinate and semi-viny GNs exhibited slightly lower severity ratings.

Table 1. White Mold Disease Reactions in a Bean Variety Trial - 1973, Scottsbluff

		Average white mold ratings*		
		Aug. 9	Aug. 20	Sept. 4
1.	Charlevoix - Dark red kidney	1.1	1.5	1.5
2.	Scarlet runner - El62	0.1	0.7	1.1
3.	Top crop	2.1	2.6	4.5
4.	Code 12 - GN breeding line	3.0	4.0	4.7
5.	Code M - GN breeding line	2.7	3.3	4.0
6.	Seafarer pea bean	2.0	4.0	5.0
7.	Gratiot pea bean	0.0	3.0	4.5
8.	Code P - GN breeding line	1.6	3.6	4.2
9.	P. coccineus PI 325 596	0.0	0.0	1.0
10.	P. coccineus PI 325 594	0.0	2.0	2.0
11.	Ouray pinto	1.75	4.2	5.0
12.	GN 'Tara'	3.1	4.2	5.0
13.	GN #59	3.2	4.3	4.7
14.	GN #1140	2.4	4.2	4.6
15.	Pinto UI 114	3.8	4.7	5.0

*Rating Scale 0-5

0 = no symptoms
1 = light infection 1-5% infection
2 = light-moderate infection 6-25% infection
3 = moderate infection 26-60% infection
4 = moderate-severe infection 61-80% infection
5 = severe infection 81-100% infection

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APPRAISAL OF YIELD LOSS OF DRY EDIBLE BEANS DUE TO FUSARIUM ROOT ROT

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Surveys were conducted a few days prior to harvest in 38 Great Northern and Pinto bean field in western Nebraska during three successive years. From each of three random locations within each field 10 plant samples were collected, and adventitious root rating, root rot severity rating (0 = no diseases; 5 = root system