Maintenance of *Sclerotinia camelliae* Cultures on Sterilized Wheat

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ABSTRACT

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Sclerotinia camelliae, the causal fungus of camellia flower blight, was grown on sterilized wheat seeds and placed in storage at 4 C. Cultures remained viable and pathogenic during 84 mo of storage.

Sclerotinia camelliae Hara is the cause of flower blight of camellia. Several researchers have reported on the longevity (5,6) and the difficulty of maintaining (1,2) the fungus in culture. McCain reported that *S. camelliae* was viable in 9-mo-old cultures that had been maintained at 21–24 C. Johnson found the fungus remained viable for 30 mo when stored at 15 C on sterilized wheat seed. In my study, *S. camelliae* was maintained in storage for 84 mo.

MATERIALS AND METHODS

Cultures of *S. camelliae* were started from infected flower tissue placed on acidified potato-dextrose agar (PDA). Subcultures were grown at 16 and 20 C and used after 7–10 days to start cultures on sterilized wheat seed. One-ounce French Square bottles were two-thirds filled with 15 g of dry seed and covered with 10 ml of water. Cultures were stored at 4 C after the fungus had overgrown the wheat seed (about 2 wk).

Individual wheat seeds were withdrawn after 22 and 84 mo in storage and placed on acidified PDA in plastic culture dishes to check for viability of the fungus. Nine to 16 seeds were taken from each of four or five stored cultures on the two sampling dates. Pathogenicity of the fungus was tested by dropping mycelium (shredded 5 sec in a blender) onto the petals of detached camellia flowers that were then placed in a moist chamber.

Table 1. Recovery of *Sclerotinia camelliae* from cultures after long-term storage on sterilized wheat seed

Culture no.	Sampling date	
	22 mo	84 mo
1	7/14[a]	0/15[b]
2	6/9	13/15
3	6/13	0/15
4	...[c]	0/15
5	6/9	7/16

[a] Number of seeds from which viable fungus was recovered/total number of seed sampled.
[b] Cultures from which the fungus was not recovered showed moderate to severe desiccation of the seed, which probably indicated a poor seal. These cultures were resampled (21–22 seed from each) 10 days after the last sampling, again with negative recovery results.
[c] Culture not sampled.

RESULTS AND DISCUSSION

S. camelliae was recovered from cultures grown on wheat seeds after 84 mo in storage (Table 1). The fungus was also pathogenic when inoculated onto camellia flowers and produced the typical soft rot associated with the blight disease. Maintenance difficulties experienced by others (2) may have been due in part to growing and maintaining the fungus at unfavorably high temperatures (25 C). Although Barnett and Lilly (3) reported best mycelial growth of *S. camelliae* at 25 C, Hanson and Thomas (4) and Johnson (5) reported 15–18 and 20 C, respectively, as supporting best mycelial growth.

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