Fungicides and Application Timings for White Mold Disease Management in Field Pea, 2003.

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Introduction
Field peas (Figure 1) are one of the most rapidly expanding planted acreages in North Dakota. Planted acreage exceeded 156,000 in 2003. Field peas are moderate in susceptibility to the disease white mold caused by the pathogen *Sclerotinia sclerotiorum* (Lib) de Bary. However, field peas fit very well in rotations that include other crops susceptible to white mold like canola and sunflower. Management of white mold in pea will be a challenge for many producers. This study is an attempt to fill this need by evaluating the efficacy of fungicides and application timing evaluation will provide data helpful for exercising management strategies to control white mold.

Materials and Methods
Research studies were conducted at North Dakota State University-Carrington and Langdon Research Extension Centers in 2003. Sites were selected with history of white mold disease. Pea cultivars included: ‘Integra’ at Carrington and ‘SW Salute’ at Langdon. Fungicides and rates included: Blocker®- pentachloronitrobenzene (48 fl oz/A), Endura®-boscalid (5.8 oz/A), Bayer experimental JAU 6476-prothioconazole (5.7 fl oz/A), Quadris®-azoxystrobin (9.6 fl oz/A), Ronilan®-vinclozolin (12 oz/A), and Topsin M®-thiophanate methyl (1 lb/A). Application timings as related to bloom stage of growth were 10%, 10 + 40%, 100%, and untreated. All fungicides and timings were not present at both locations. Visual disease assessment, 1000 seed wt, yield, and test weight were recorded. Data were analyzed by analysis of variance. Least significant differences (LSD) were used to compare means at the 5% probability level.

Discussion
Differences in fungicide efficacies were measured at both locations. Quadris, JAU 6476, and Endura increased yield at Carrington over the control (Figure 3). Ronilan and Topsin M increased yields and reduced sclerotinia incidence (Figure 4) over Quadris at Langdon. All application timings that included a 40% bloom growth stage timing increased yield at Langdon (Figure 5). Quadris and JAU 6476 at 10 + 40% or 40% bloom and Endura at 10 + 40% bloom growth stages increased yield at Carrington (Figure 1). All fungicide applications at 100% bloom growth stage were not different from the control at Carrington (Figure 6). Increases in seed weight and test weight were also measured. Further research is warranted to clarify the range of application timings and to further qualify application rates of fungicides for potential labeling for application to field pea.

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[Image of field peas]