

Production of Normal Panicles by Sorghum Plants Systemically Infected by Downy Mildew in Zimbabwe. S. D. Singh, Cereals Program, ICRISAT, Patancheru, A.P. 502 324, India, and W. A. J. de Milliano, SADCC/ICRISAT, P.O. Box 776, Bulawayo. Zimbabwe. *Plant Disease* 73:1020, 1989. Accepted for publication 18 July 1989.

The general belief is that sorghum (*Sorghum bicolor* (L.) Moench) plants systemically infected by downy mildew, caused by *Peronosclerospora sorghi* (Weston & Uppal) C. G. Shaw, produce either no panicles or sterile panicles. During 1986-1987, 25 systemically infected plants from each of 13 moderately susceptible sorghum selections were tested for panicle production. A sandwich technique was used to inoculate germinating seeds with conidia of *P. sorghi*, and the seeds were planted in pots. Incidence of systemic downy mildew among selections ranged from 15 to 30%. Only the diseased plants in each selection were retained. All infected plants had at least the five uppermost leaves severely infected with abundant conidia at heading. Leaf shredding occurred in some selections. All infected plants produced seed; most panicles had full seed set. The seeds were well filled and viable (90% germination). About 200 plants of each of three highly susceptible cultivars—Sugar Drip, Marupantse, and DMS 652 — were also tested for this trait in a downy mildew nursery. Incidence of the disease in these cultivars ranged from 44 to 72%. Normal panicles were produced by 4% of diseased Marupantse plants, 66% of diseased Sugar Drip plants, and 70% of diseased DMS 652 plants. This appears to be the first report of the production of normal panicles by sorghum plants systemically infected by downy mildew.