

Sorghum Downy Mildew in Kansas in 1979

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ABSTRACT

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Sorghum downy mildew caused by *Peronosclerospora sorghi* was first reported in two Kansas counties in 1967. It was found in six more counties during the next 10 yr, then in six more in 1978 and 14 more in 1979.

Sorghum downy mildew caused by *Peronosclerospora sorghi* (Weston & Uppal) C. G. Shaw was first reported in Kansas in 1967 in Republic and Riley counties (5). Between 1967 and 1977, the disease spread little, being reported in only six more counties. In 1978, however, the disease was found in six additional counties in southwest and northeast Kansas (5), and in 1979 it was found in 14 additional counties (Fig. 1). The disease was still present in areas where it had previously been reported. The counties where the disease is now known to occur produce approximately 39 and 30% of the grain and silage sorghum, respectively, in Kansas (2,3). In 1979, Kansas led the United States in both grain and silage sorghum production, with 256.7 million

bushels and 4 million tons, respectively (6).

Environmental conditions during the summer of 1979 were important in spread of the disease, as cooler than normal temperatures and above-average rainfall were common over most of the state. Secondary spread of the disease is favored by cool nights (18–21 C) and long dew periods, since spore production occurs only at night in the presence of free moisture on the leaves (1). In most cases, the source of inoculum was systemically infected shattercane (*Sorghum bicolor*) or sorghum (*S. vulgare*) in sorghum fields or systemically infected shattercane in corn fields near sorghum. Corn was not affected in either 1978 or 1979.

Sorghum hybrids with varying degrees of resistance to sorghum downy mildew offer the most practical means of control and are currently available for use in

areas where the disease occurs.

Sorghum downy mildew apparently will continue in Kansas, as the causal organism attacks sorghum, shattercane, and johnsongrass (*S. halepense*) and is able to overwinter as oospores in leaf debris (4). Because of the increase in inoculum that occurred in 1979, further outbreaks of the disease in Kansas are to be expected when environmental conditions are favorable.

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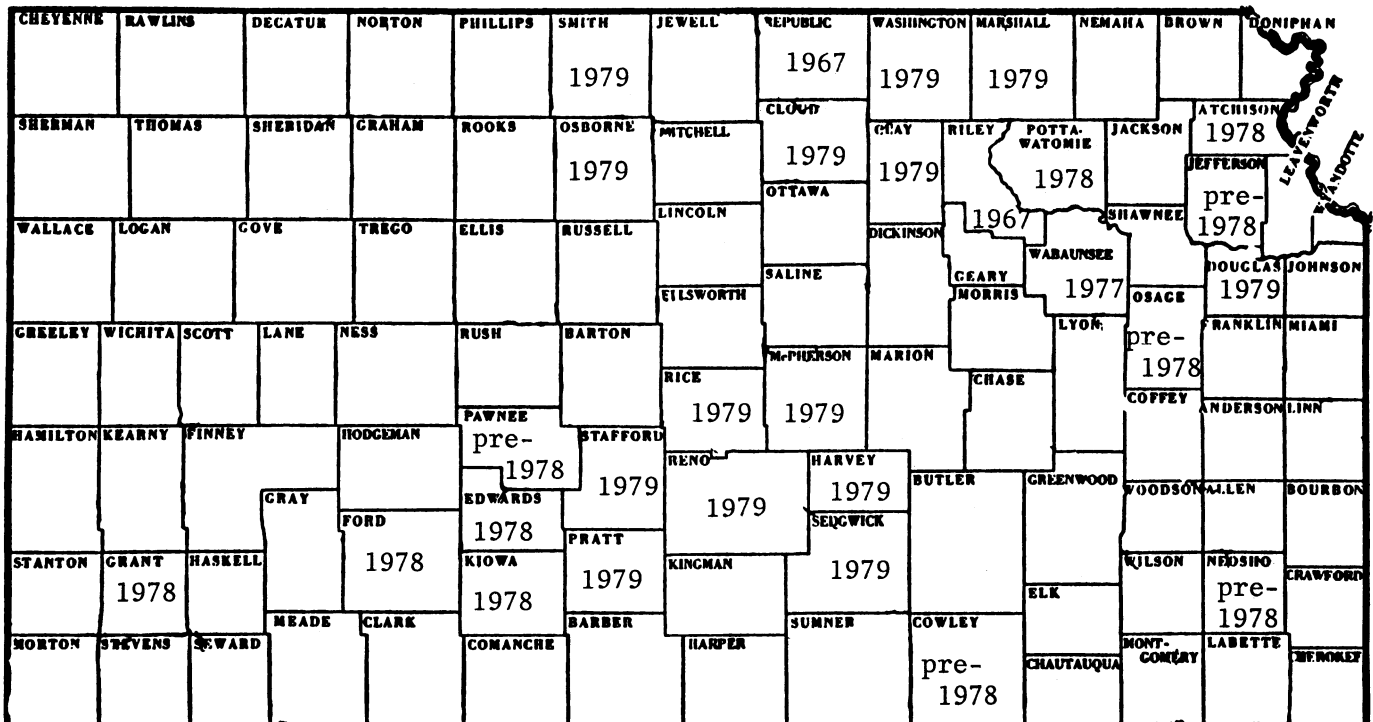


Fig. 1. Distribution of sorghum downy mildew in Kansas. Dates indicate when the disease was first reported.