

SUMMER FOXTAILS (Pigeon Grass) (Setaria sp.)
AN ECONOMIC PROBLEM TO ALFALFA HAY GROWERS

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Pigeon grass (Yellow foxtail, Setaria lutescens; Green foxtail, Setaria viridis) is becoming one of the number one summer annual grassy weed pest in a majority of the alfalfa hay producing areas of California. Twenty counties, representing approximately 60 percent of the alfalfa hay acreage, recognize pigeon grass as either the number one or one of the top three grassy weed problems during the summer months. Pigeon grass infestations can lead to early crop removal or at the very least, minimize alfalfa yields and quality to such an extent that the crop becomes economically unfeasible to produce.

Control strategies and programs have not given acceptable or satisfactory results. The use of soil residual herbicides applied in combination with a contact herbicide has given growers excellent control of many winter annual weeds and early germinating summer annual broadleaves, but has little effect on the control of early germinating pigeon grass. In some situations germination can be earlier and population greater due to the open canopy and warmer soil temperatures created by the use of soil residual herbicides. Control can be achieved of grasses not yet germinated by the use of herbicides applied in the irrigation water, but due to the early germination (mid February) and the timing of the first irrigation this practice is not effective against early germinating pigeon grass.

Even though pigeon grass seedling are present at the first cutting, contamination of hay with the seedheads does not occur until the third cutting. Seedheads are produced through the remainder of the growing season effecting quality of all remaining cuttings. Economic losses can be great for the last two thirds of the cuttings, especially when severe infestations occur.

A 40 percent reduction in price for contaminated hay has been documented for both 1983 and 1984. A Sacramento county grower was receiving \$40 per ton less for contaminated hay when good quality hay was selling for \$110.00 per ton. In 1984 when good quality hay was selling for \$74 per ton a Madera County grower was receiving \$50 a ton for contaminated hay. This is an average loss of \$30 per ton. Projecting these figures for the twenty counties having a pigeon grass problem and assuming 4½ tons of infested hay per acre the statewide dollar loss (not including loss of yield due to competition) can be estimated to be 20 million dollars.

Because of this economic impact and the fact that pigeon grass seems to be spreading throughout the alfalfa growing areas of the state there is much concern and interest in developing an effective means of control.