

IMPROVEMENT PROGRAM FOR THE MILLET/PANICUM INDUSTRY

R.J. Fletcher, S.P. Mitchell and Karyudi

The University of Queensland, Gatton College, Lawes, Qld 4343

The GRDC Project UQ61NR aims at assisting the Australian millet/panicum industry by carrying out a marketing analysis, establishing crop improvement and extension programs and investigating responses to herbicides and diseases. This report outlines recent progress.

MARKETING

An overview of the Australian millet/panicum industry and a report of the international market have been completed by officers of the Agribusiness Marketing Services Section of the Queensland Department of Primary Industries (QDPI), with assistance from members of the Queensland Produce, Seed and Grain Merchants Association. Industry personnel were interviewed, industry data analysed and visits to UK, Netherlands and Taiwan carried out.

It has been found that the size of the Australian millet/panicum harvest has been understated in the past and has probably been up to 60,000 tonnes in a normal season. The most marketable export lines have been identified as White French Millet and Panorama. Yield improvement and the development of millet/panicum lines for human food have been identified as key selection criteria.

CROP IMPROVEMENT

More than 110 accessions of *Setaria italica* (Foxtail millet) and more than 120 accessions of *Panicum miliaceum* (Proso millet), imported by the CSIRO Division of Tropical Crops and Pastures in 1985, were sown in two replicated trials at The University of Queensland Gatton College in 1994-95 (15 December 1994 and 27 January 1995). Within each eight row plot, the four centre rows were sown 3 cm deep and the remainder 9 cm deep. A range in establishment counts was observed, with most of the accessions of *Setaria italica* not establishing well. Selections have been made on the basis of field establishment.

Another group of over 240 accessions of these two species has been introduced, with the assistance of Dr P. Lawrence, Curator, Tropical Field Crops Germplasm Resource Centre, QDPI, Biloela. These will be field screened in 1995-96.

Laboratory trials of hypocotyl extension lengths among seedlings of the Australian cultivars of these two species have revealed a range in such lengths but the lengths were not related to the establishment counts recorded in the field.

Trials conducted in association with Dr J. Morgan at the Tamworth Centre for Crop Improvement, New South Wales Agriculture, have revealed a range in osmoregulative capacity between seven accessions each of *Panicum miliaceum* and *Setaria italica*, with accessions of the latter species having the higher osmoregulative capacity overall.

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