

WEEDS OF CROPS IN NORTHERN TERRITORY

Reviewed by

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GRAIN SORGHUM

Great prominence was given to this crop as a possible basis for a cash crop industry, with export possibilities. Sorghum had been grown on a small scale for many years. The export plans have not eventuated and the short term future appears to lie in supplying local demand for stock feed. The total area grown in the Northern Territory never exceeded 16,000 acres (6480 ha) and last season, 5,000 acres (2025 ha) were grown. On larger areas, weeds contributed to the low yields. As much as 16% of the crop area was completely covered with *Pennisetum pedicellatum*.

Pennisetum pedicellatum was misidentified as *P. polystachyon* for a long period. It was released during the 1940s as a promising pasture grass.

Other weeds present in the crop are *Amaranthus viridis*, *Brachyachne convergens*, *Digitaria* spp, *D. adscendens*, *Echinochloa colonum*, *E. cruss-galli*; *Eleusine indica*, *Physalis minima* and *Portulaca oleracea*. Most are weeds of any areas of irrigated sorghum during the dry season as well.

Much better weed control was achieved through close attention to planting techniques during the 1969-70 season, aided by a dry season.

In the dryer areas about Katherine, weeds have not been such a problem.

Weeds research has concentrated on the evaluation of suitable herbicides, and the examination of the weed-crop relationships. Seasonal conditions and soil types markedly affected the activity of herbicides in the screening trials. On the same soil, some proved to be too toxic this year but not last year. Atrazine appears to be the most promising herbicide at rates of 2-3 lbs per acre (2.3-3.3 kg/ha) for pre- and post-emergent application.

Observations have shown that taller varieties with increased populations and closer row spacing are very significant in improving the success of the crop against the weeds. Minimum cultivation techniques appear to be a method of preventing sandblasting and improving moisture penetration, both of which were problems during 1969-70.

Bulrush millet is grown on less than 100 acres (40 ha). Weeds are not a problem in the crop if it establishes well. The crop can out grow all weeds.

Weeds of Rice in the Northern Territory

The weed problem in rice can be divided into three separate parts:

1. Weeds in drill sown irrigated rice
2. Weeds in aerially sown rice under natural rainfall
3. Weeds in channels

No figure has been put on the yield reduction of drill sown rice due to weeds under Northern Territory conditions, but experience in other areas strongly suggests that severe yield reductions would occur.

In water seeded experiments, reductions of from 75 to 100% have been measured.

1. Weeds in drill sown irrigated rice

The most serious weed is *Echinochloa colonum* which appears soon after the first irrigation. The weed is controlled using Propanil at the rate of 5 lb per ac (5.5 kg per hectare).

Sometimes an invasion of *Eleocharis acicularis* occurs, typically commencing in the spoon drains and mowing into the crop by means of rhizomes. This can be controlled using MCPA at the rate of 1-2 lb per ac (1-1-22 kg per hectare).

Occasionally, infestations of *Leptochloa* spp. and *Aschynome indica* occur, but not so far in sufficient numbers to warrant control measures.

2. Weeds in Aerially sown rice under Natural Rainfall

A larger number of weeds are of importance here. These include *Echinochloa colonum*, *Oryza spontanea*, *Sesbania benthamiana*, *Echinochloa stagnina*, *Fimbristylis littoralis*, *Cyperus esculentus*, and *Eleocharis acicularis*.

Control at present is by dry and wet cultivations prior to sowing, followed by MCPA at the rate of 1 lb per ac (1.1 kg per hectare) at mid-tillering. The use of herbicides to replace wet cultivation prior to sowing is being investigated.