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Moisture responses of wheat (Merredin)

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EXPERIMENTAL SUMMARY

MOISTURE RESPONSES OF WHEAT

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MOISTURE RESPONSES OF WHEAT

A trial was planted at Merredin in 1976 on Salmon Gum soil with the aim of testing the drought tolerance of Gamenya, Madden and Insignia wheat. The following yields were obtained.

Yield kg/ha

Cultivar	Irrigated	Untreated
Gamenya	2162.4	846.4
Madden	2308.8	914.2
Insignia	2619.2	919.3

LSD (0.05) between cultivars 182.0.

Coeff. of Variation - 15.6%.

In addition to the irrigated treatment, where approximately 170 mm of water was added to the 170 mm of natural rainfall, metal channels were placed between rows of other plots to divert natural rainfall and increase drought. The results were as set out below.

	dry watered	guttered watered
Gamenya	0.44	0.37
Madden	0.49	0.40
Insignia	0.37	0.35

Differences between cultivars were not significant. The yield of Insignia under the well watered treatment was due to a greater number of ears per m^2. Under the untreated condition, loss of kernel weight prevented this advantage being maintained relative to the other varieties. This result can be seen below.

	No. of Ears			Mean kernel wt (mg)			Kernels per ear		
	Watered	$\frac{D}{W}$	Dry	Watered	$\frac{D}{W}$	Dry	Watered	$\frac{D}{W}$	Dry
Gamenya	266	0.66	175	32.4	0.78	25.4	35.9	0.81	28.9
Madden	253	0.70	177	33.0	0.81	26.9	36.9	0.77	28.5
Insignia	349	0.68	238	33.7	0.71	23.9	30.0	0.78	23.4