

Workshop, Sydney, May 27-28, 1981) has not yet been explored. The relationship between feeding value and possible growth-depressing factors in the grain of some triticale strains also needs further investigation.

The purpose of this research proposal is to develop widely adapted triticale lines of improved nutritional value.

Because triticale is a new crop with a limited number of growers there is no likelihood of any financial support for the triticale breeding program from grower organisations. No other industry funds are available for such a project.

5. Research Plan

A wide range of samples (approximately 100) will be collected from different triticale varieties grown at different locations throughout the Australian cereal belt, for determination of TME values using the precision feeding of cockerels method. Chemical analyses will be carried out on the samples for nutritional or anti-metabolic factors such as protein and fibre content, amino acid composition and concentration of tannins and pentosans. This part of the project is expected to be completed by 30th June, 1984.

The data will be used to assess the suitability of different triticale varieties as parental material in a hybridization program. The resulting segregating progenies will be evaluated in the field for adaptability, agronomic traits and disease resistance. Approximately 600 - 700 lines will be selected for further determination of TME values using the same feeding method. Other chemical parameters will also be measured. Heritability estimates will be calculated for the different nutritional factors to assist in the variety development work. This aspect of the project will be completed by 30th June, 1986.

Three-week chick growth studies will be conducted during the second and third year of the project comparing commercial varieties, high yielding advanced breeding lines and lines of differing TME value (6 growth assays of 8 lines per year). These data should be available by 30th June, 1986.

6. Cost

	<u>1983/84</u> \$	<u>1984/85</u> \$	<u>1985/86</u> \$
<u>Capital</u>			
Experimental plot seeder	5,000	-	-
Chickens	-	900	900
Electronic balance	-	4,500	-
Electronic data processing equipment	-	-	5,000
<u>Operating</u>			
Travel	2,000	2,000	2,000
Laboratory items	1,200	1,500	1,500
Feed	400	1,500	1,500
Land rental	500	500	500
Computer services	800	800	800
Transport	300	300	300
<u>Salaries</u>			
Technical assistant (6 months/1st Year)	4,500	10,500	12,000
Casual labour	5,500	9,500	10,000
Total	<u>20,200</u>	<u>32,000</u>	<u>34,500</u>

7. Staff Involved

Plant Research

J.B. Brouwer, Geneticist

Animal Research

H. Karunajeewa, Research Scientist

S. H. Tham, Chemist

S.A. Serewa, Senior Livestock
Research Officer.