

A Varietal Trial of Triticales (Published in 1980)

a) Researcher's Identity

1. Dr. Md. Amzad Hossain
Deputy Director
M.Ag (Agronomy), Dhaka University
Ph.D (Agronomy), University of Philippines, Los Banos

b) Objectives

- i. To screen the potential varieties of Triticale for higher production; and
- ii. To find out the optimum environment condition for Triticales.

c) Executive summary

Bangladesh is a small country with a high density of population. Every year about 25 lakhs of new faces are added to the country's population. Under the available technological condition, the country is not in a position to feed well her teeming population. Rice is the staple food that mostly grown in the rainy season. Growing of boro rice requires much irrigation and therefore becomes costly for the peasants. Extensive wheat cultivation in Winter season is a positive step towards solution of food problem. Wheat cultivation costs less also. Recently International Maize and Wheat Improvement Centre, Mexico in co-operation with the University of Manitoba, Canada developed a high yielding cereal named triticale. This can be an additional effort to increase production of food grain.

Triticale is a new and is still a relatively unknown crop to many of the countries. It is the product of a cross between the genera Triticum (of which wheat is a member) and Secale (of which rye is a member), getting half of its name from each parental genus created by plant breeders, rather than by the natural processes of evolution. Triticale owns the distinction of being the first successful "man-made" cereal grain.

A number of top yielding triticale varieties have been developed through research conducted in the CIMMYT. Triticale is now grown commercially in Hungary, USSR, China, Spain, South Africa, Argentina, Mexico, Canada and

the USA. Triticale gives yield as high as wheat does and sometimes higher even with the same amount of irrigation inputs and efforts, in near future this can be recommended for growing in Bangladesh also.

By recommending Triticale to grow here, trials or tests are necessary to see whether this is adapted in the ecological environment of Bangladesh. A varietal trial was therefore set up with the objective to see the yield performance and other agronomic characteristics of triticale varieties.

This was a varietal trial of different top yielding Triticale varieties conducted in the Academy farm. Triticale was obtained in CIMMYT, Mexico, as a result of cross between wheat and rye. In 1975, fifty varieties of triticale were brought from Mexico. They were grown in Academy farm in 1975, 1976, 1977 and 1978 to see the yield performances. Of the total, 7 varieties namely, Lince, Mapache, Maya, Beagle, Navojoa, Rahum and Setter which performed best in yield were selected and grown finally in the farm. From this trial the following findings were obtained:

- (1) Lince, Mapache, Maya, Beagle, Navojoa, Rahum and Setter varieties gave respectively yields of 65.10, 60.15, 59.15, 58.07, 53.10, 50.70 and 59.88 maunds per acre.
- (2) Triticale gave good yield but did not look good due to its shriveled grain structure.
- (3) The malformed seeds provided a poor embryo and lead to a poor germination rate ranging from 63 to 70%.
- (4) Though growth of triticale plants seemed very good, but they suffered in adaptation during flowering stage due to moisture stress.

Based on above findings, the following conclusion can be drawn:

- (1) The high yields obtained by Triticale indicate that triticale can be a potential crop to compete with wheat in future.
- (2) Due to shriveled grains with wrinkled coat, deep crease and lack of luster, the triticale grains can be unattractive to the farmers and consumers, when very good white and plumpy wheat grains are available to them.
- (3) It requires further study for obtaining lustered seeds of Triticale with its wide adaptation, on latitude, elevation, temperature, day length, availability of moisture, nutrients and probably many other factors.