Gomal Univ.J.Res. Printed in Pakistan
Vol. 11 No. 1 pp 45 - 52 (1991)

THE INHERITANCE OF PROTEIN CONTENT, GRAIN YIELD AND YIELD COMPONENTS IN BREAD WHEAT (TRITICUM AESTIVUM L. EM. THELL.)

Khurshid Alam, Muhammad Aslam Chowdhry and Muhammad Nawaz Asad.
Department of Plant Breeding and Genetics,
University of Agriculture, Faisalabad.

Received 10-12-89
Accepted 31-02-90

ABSTRACT

Genetic mechanism from diallel crosses of five native wheat varieties viz. LU 26S, Pb.85, Pak.81, Lyp. 73 and Chakwal 86 was evaluated. Additive genetic effects with partial dominance were evident for number of kernels per spike and grain yield per plant. Number of tillers per plant and 1000-kernel weight were conditioned by over-dominant type of gene action and protein content by complete dominance. Epistatic effects were found for grain yield per plant and protein content only.

INTRODUCTION

Wheat being chief source of protein and caloric requirements for the biggest part of world's population, deserves the utmost attention to increase its yield per unit area which may be attained by developing superior wheat varieties. To accomplish aforesaid objective, precise comprehension of the genetic systems underlying the control and expression of various quantitative traits is essential. A plant breeder is in dire need of such techniques as will help him in screening his material in early generations.

The diallel cross technique as advocated by Hayman (1954) and Jinks (1954) provides a fairly effective method especially in autogamous crop like wheat to assess the crosses right in F_1 generation and to organize some pertinent breeding strategy. The present research work had been conducted to provide basic informations on the quantitative genetic analysis regarding protein content, grain yield and yield components of twenty crosses, inclu-