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A COMPARATIVE STUDY OF GAMMA IRRADIATION ON YIELD PARAMETERS IN BARLEY AND TRITICALE VARIETIES

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ABSTRACT

The dry seeds of C-4 and T-77 varieties of barley and triticale were exposed to 5, 10, 20, 30 and 40 krad gamma rays and the influence of the above mentioned doses were observed on yield on yield parameters in M generation. The yield parameters included in this study were length of spike, number of spikelets per spike, number of florets per spike, number of grains per spike, 1000-grain weight and yield per treatment. All the characters were found to be affected to highly significant level due to varieties of both the genera.

INTRODUCTION

Barley and triticales are two important cereal crops. Barley (Hordeum vulgare) is one of the oldest of the cultivated cereal and was originated in the Middle East. The triticale (Triticasecale spp) is a new crop obtained by combining the genomes of wheat and rye. The variation thus induced in both these crops through gamma irridiation can be of practical as well as theoratical significance. Sapara and Constantin [9] working with the seeds of winter hexaploid triticale, reported that field grown plants reduced significantly in all morphological characteristics at highest doses of irridiation. Griffth and Johston [2] working with oats found that highest dose of irridiation i.e. 30 kr reduced survival percentage drastically. Plants exhibited considrable variation in the morphological characters including those related with yield componont. Mucci [4] observed variation in height, ear length, number of spikelets per spike, number of florets, time of maturity, grain yield, in barley plant when irra-