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MUTATION BREEDING OF WHEAT FOR FOOD AND FEED PURPOSE

Wheat is a core agricultural plant, which constitutes about 90% of agricultural production of Mongolia. Wheat is used to necessity daily food requirement of the local population, and wheat straw is used for feed of livestock. There is therefore a need evaluate new varieties and advanced lines with high yield and good quality for food and feed through mutation techniques. Developing dual purpose wheat cultivars is a major activity of plant breeders in Mongolia. The mutant cultivar Darkhan-141 is suitable as a dual-purpose crop as biomass at heading and milk-ripe stage and straw. For food, average grain yield was 1.44 t/ha, but yield potential is reached at 2.53 t/ha, It has good bread making quality with 16.5% of protein and 33.3% gluten in seed and 4.0 of bread making score. For feed purposes this variety give good dry matter production at heading and maturity, yield of biomass is reached 8.35t/ha at heading with 1.52% nitrogen and 16.16 t/ha at milk maturing with 0.65% nitrogen. Straw yield averaged 5.5 t/ha with 0.48% nitrogen, 94.6% dry matter, 6.5% crude ash and 36.3% fibre. The GA3-K effects significantly on the plant growth particularly in plant height increased 1.7-13.8cm. In case of biomass treated with PGR, Darkhan-196 had highest biomass yield after three GA-K salt application but Darkhan-209 and Darkhan-141 had higher biomass yield after one application. The yield was increased in the all treatments of Darkhan-210 by 0.1-0.31 t/ha.

Country or International Organization

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