ANALYSING THE RESULTS FIELD TESTS OF AN EXPERIMENTAL SEEDER
WITH SEPARATE INTRODUCTION OF SEEDS AND FERTILIZERS

MUBARAK ADUOV, SAULE NUKUSHEVA, ESENALIKASPAKOV,
KAZBEKISENOV & KADIRBEK VOLODYA
Saken Seifullin Kazakh Agrotechnical University, Astana, Kazakhstan

ABSTRACT
The task of agricultural production is obtaining high yields, and the basis for this is laid down during sowing. The analysis has shown that in the existing seed colters, despite their diversity, the fertilizer is mainly introduced together with the seeds, but for better formation of the root system and better sprouting, separate introduction of seeds and fertilizers is preferred; with that, the fertilizers should be introduced below the depth of seeding. In this regard, the authors studied the design and the technology used in the existing seed-fertilizer seeder and working organs, held searching experiments, made two variants of the experimental seed colters, performed theoretical calculations \( R_T \) and laboratory and field studies. An experimental unit that consisted of a tractor and a seeder with experimental seed colters was tested, while the reference seeding was made with a standard seeder. It has been found that the tractive resistance of the experimental seeder exceeds the tractive resistance of the standard seeder by 5 – 10 % in the stubbles, and by 1.5 – 5 % in a plowed field; the quality of work of the experimental seeder is superior to that of the standard seeder: in terms of seeding uniformity – by 3.56 %; and in terms of plants distribution across the feeding area – by 3 %. Analysis during the three years of the research has shown that the yield in the plot seeded with an experimental seed fitted with colters with a soil compactor and a seed guide is higher on average by 21.2 % than the yield in the plot planted with a standard seeder, and the yield from a plot sown with seeder with experimental seed colters without a soil compactor is higher on average by 10.5 % than the yield from a plot sown with a standard seeder.


Received: Mar 13, 2019; Accepted: Apr 03, 2019; Published: Jul 04, 2019; Paper Id.: IJMERAUG201958