

International Journal of Pharmacy and Technology, 2016, vol.8, N3, pages 14965-14972

Quality control indicators of soil ridges at sowing cultivated crops

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved. The initial component of any cultivated crops technology is high-quality preparation of a field in order to create proper conditions for the subsequent seed placement, plant root system's growth and development stimulation. At the same time, any mechanical treatment should not disrupt the optimal soil structure; it should preserve the soil fertility, protect against erosion processes and maintain moisture to the greatest possible extent. Traditional technologies of growing cultivated crops on a flat field surface have been and remain the most widespread. However, the studies have found that the most promising is the ridge technology. A ridger seeder is developed for implementation of the ridge technology; the ridger seeder's application allows to cost effectively perform presowing cultivation in just one pass, after sowing the seeds to form a soil mound over a stitch of sown seeds, to compact such soil mound on three sides and finally form a soil ridge of a required dimension and density. The tool's flat disk and concave disks of the ridger seeder's ridge forming roller have substantiated approach angles. It has been revealed that structural and operating parameters of the tools with flat discs and the ridge forming roller, as well as physical and mechanical properties of the soil affect the process of forming the soil ridges of required dimension and density at seeding any cultivated crops.

Keywords

Compacting, Cultivated crops, Ridger seeder, Seeding, Soil ridge, Technology