Possibilities and challenges of drone usage for grassland development

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Abstract

Land resource of India is though constrained to support its large livestock numbers, but vast availability of common lands provides enormous possibility to develop them into grasslands. With advent of drones, a self propelled airborne device with no on-board pilot, possibilties to develop these common lands have opened up. India has 51.598 million ha of common land which has the potential to produce estimated 22.159 million tons dry matter. However, grass seeds are extremely small, light in weight, many species have awn like structure and their availability are some of the challenges to use drone for sowing grass seeds. A pilot work was taken up in collaborative mode successfully resulted in development and testing of two types of seed sowing devices integrated with quad-copter agricultural drone. Seeds of grazing guinea, *Stylosanthes hamata* and *Cenchrus ciliaris* were successfully sown using a drone fitted with seed sowing device in 2 days to cover 50 acre land in Hessarghtta farm in September 2021 with very good germination. This small attempt maximises the possibility of leveraging aerial seed sowing technology for grassland development.

Keywords: Common land, Drone usage, Dry matter, Grasses, Livestock, Seeds