Hydroseeding Kura Clover Compared to Conventional Drilling

John Baker, USDA-ARS

Treatment	Harvested Fresh Biomass (tons/ac)
Drilled	3.30 ± 0.74
Hydroseeded	3.24 ± 0.49
Hydroseeded with pre-germination	2.46 ± 1.07

Hydroseeding is commonly used for planting turfgrass and for specialized applications such as seeding berms and highway median strips. A cited advantage of hydroseeding is seed can be pre-germinated (soaked in water for a limited time prior to seeding) and mulch material can be added to the tank, both presumed to enhance establishment of new plantings. We speculated these attributes might be beneficial for planting kura clover, known to be slow to establish, so we conducted a trial with three planting treatments: conventional grain drill, hydroseeding, and hydroseeding with pre-germination (soaking in water 24 hours). The trial was conducted at the UM Rosemount Research and Outreach Center on a field that was first sprayed with glyphosate to kill growing weeds, then plowed and disked. Twelve plots were in randomized complete block design to provide 4 replicates of each treatment. Plots were 24' x 24'. The target seeding rate for all plots was 10 lbs/ac (60 g of seed per plot). Seed for the pre-germination treatments was placed in distilled water to soak the day before planting. Drilled plots (D) were planted with a grain drill June 5, 2018, calibrated to drop 10 lbs/ac to plant the remainder of the 40-acre field, using seed previously inoculated. Immediately after the drilled planting, the hydroseeded plots (H) and the hydroseeded with pre-germination plots (HP) were planted, using a Turboturf HS-100-P hydroseeder. For each plot, we mixed the 60 g of seed with 9 kg of mulch, 50 gallons of water, and a cupful of inoculant in the hydroseed tank. The mixture was then sprayed as evenly as possible across the plot. After one week, seedling emergence was only visible in drilled plots. Three weeks after planting, emergence was visible on all plots, and photographs of each plot were taken monthly. On September 26, 2018, all plots were mowed at a cutting height of 2" and clipped vegetation from each was collected and weighed. Variability in biomass within a treatment was nearly as great as that among the treatments (Table). We tentatively conclude hydroseeding works as well as direct drilling, and if hydroseeding is used, there is no apparent benefit to pre-germinating seed. The lower mean value and greater variability associated with the pre-germination treatment may have been due to a greater tendency for the pre-soaked seed to clump. In general, hydroseeding is slower than drilling, so in most cases there is no advantage to using it. There may be situations where it is difficult to use conventional drills (i.e., steeply sloped ground, narrow strips of land). Hydroseeding can then be used to provide a stand similar to that obtained with a drill. Since all treatments resulted in acceptable stands, we conclude that previous reports of problems in establishing kura clover may be attributable to poor seedbed preparation rather than seeding equipment.