

Production & Economics of Dual Use Intermediate Wheatgrass [*Thinopyrum intermedium* (Host) Barkworth & D.R. Dewey]

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Introduced in the United States as a forage, intermediate wheatgrass [*Thinopyrum intermedium* (Host) Barkworth & D.R. Dewey] (IWG) is in development as a perennial grain crop. A dual use system (DU) that includes grazing fall and spring crop regrowth after the summer grain and straw harvest could provide producers with an income stream during the shoulder season. However, balancing grazing and grain yields must be evaluated for productivity and profitability. An on-farm trial conducted in Cannon Falls, MN from fall 2018 to summer 2022 compared the forage, grain, and straw yields and net revenue of a grain-only production (GP) system vs. a DU system that included fall (October/November) and spring (May) grazing after harvesting the grain and straw in July/August. The GP system produced 42% more grain and 41% more straw than the DU system in the first year after implementing grazing but these differences did not arise in subsequent years. Repeatedly harvesting spring and fall regrowth in the DU system did not affect subsequent year's forage production. Seasonal forage production was also similar except in the spring of the fourth year when the GP system produced 0.82 Mg ha⁻¹ more spring forage than the DU system. Both systems earned a net return to the enterprise with the GP system generating \$794 ha⁻¹ yr⁻¹ and increasing to \$1,212 ha⁻¹ yr⁻¹ with the sales of a summer straw harvest compared with the \$695 ha⁻¹ yr⁻¹ generated in the DU system. Thus, livestock producers can expect to profitably graze cattle on IWG. It may be advisable to wait to graze IWG stands until after the second grain harvest to prevent yield declines.