Intercropping Berseem Clover with Barley, Oat or Triticale. (C03-ross122038-Oral)

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Abstract:

The sustainability of cereal cropping may be improved by adding legumes to crop systems. Berseem clover (Trifolium alexandrinum L) was intercropped with oats (Avena sativa L.), barley (Hordeum vulgare L.) or triticale (X Triticosecale Wittmack) on a Typic Cryoboroll soil at Edmonton, Canada. Cereals at 30, 60, 90 and 240 plants/m2 were grown with Bigbee berseem. Plots were harvested at silage stage of cereals (soft dough) between late July and mid-August, and at the end of the growing season (late September). First cut biomass averaged 9.6 Mg/ha of dry matter, with 13% berseem. Second cut of berseem averaged 2.7 Mg/ha DM. Regrowth of cereals was negligible. The full rate of cereals (240 plants/m2) was very competitive and greatly suppressed berseem initial growth and regrowth. Reducing cereal rates to 1/4 of the full rate reduced first cut yields, but increased second cut yields, and had little effect on total seasonal yields. If the cereals emerged much ahead of the berseem, berseem yield was significantly reduced. Berseem growth was more greatly suppressed by barley and oats than by triticale. The early maturity of barley allowed for a longer period of berseem regrowth.

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