WISCONSIN - Seeding Birdsfoot Trefoil or Red Clover in 3-Species Mixtures with Kura Clover/Grass Shows Promise

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Kura clover is an underutilized forage legume with great potential for permanent pastures and living-mulch systems. A major limitation to its widespread use is establishment difficulty. Research was conducted at two southern Wisconsin locations to determine optimal seeding rates for 3-species mixtures of Kura clover, a faster-establishing legume, and a perennial grass. The goal was to produce pastures with the greatest and most consistent legume content.

Varying seed ratios of Kura clover/'C328' red clover, or Kura clover/'Norcen' birdsfoot trefoil were used in combination with 'Albert' orchardgrass (4 lbs/acre), 'Chiefton' reed canarygrass (6 lbs/acre), or 'Vulcan' tall fescue (10 lbs/acre). Three Kura clover entries were tested: 'Cossack', 'Endura', and 'KTA202'. The total legume seeding rate in all mixtures was 8 lbs/acre; with each legume species seeded at 0, 2, 4, 6, or 8 lbs/acre depending on mixture treatment.

In Kura clover/birdsfoot trefoil/grass mixtures, optimal seeding ratios by weight were 75:25 (6 lbs/acre:2 lbs/acre) and 50:50 (4 lbs/acre:4 lbs/acre) Kura clover:birdsfoot trefoil. In Kura clover/red clover/grass mixtures, the optimal seeding ratio by weight was 75:25 (6 lbs/acre:2 lbs/acre) Kura clover:red clover. Mixtures including Kura clover and red clover had the greatest legume content (>50%). This study demonstrates that pasture legume content can be increased by seeding mixtures that include both Kura clover and a faster-establishing legume.

Table 1. Total-legume and Kura clover content (% of DM) of mixtures averaged across 20 harvests from 2005 through 2009 at 2 southern WI locations.

Mixture (Location)	Legume Content (% DM)	Kura Clover (%DM)
Legume/OG (Arlington)	60	29
Legume/RCG (Arlington)	64	33
Legume/TF (Arlington)	57	29
Legume/OG (Prairie du Sac)	35	15
Legume/RCG (Prairie du Sac)	45	15
Legume/TF (Prairie du Sac)	31	9
Kura clover/grass	45	42
Birdsfoot trefoil/grass	38	0
25 KC:75 BFT with grass	43	18
50 KC:50 BFT with grass	47	26
75 KC:25 BFT with grass	48	32
Red clover/grass	43	0
25 KC:75 RC with grass	53	4
50 KC:50 RC with grass	51	9
75 KC:25 RC with grass	55	21
Mixtures with Cossack KC	50	22
Mixtures with KT202 KC	50	27
Mixtures with Endura KC	46	16

BFT = birdsfoot trefoil, KC = kura clover, RC = red clover, OG = orchardgrass, RCG = reed canarygrass, TF = tall fescue