Yield and Quality of Kura Clover Compared to Forage Legumes Traditionally Grown in Central Europe

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Kura clover (*Trifolium ambiguum* M. Bieb.) is a rhizomatous perennial legume that is native to Caucasia, is extremely persistent in North America, but its performance has not been adequately evaluated in Europe. The objective of this research was to compare forage yield and nutritive value of Kura clover to lucerne (*Medicago sativa* L.), red clover (*Trifolium pretense* L.) and white clover (*Trifolium repens* L.) at two locations in Poland. All clover stands thinned markedly by spring of the second production year because of infection by Sclerotinia crown and stem rot, but lucerne stands remained dense and this legume produced the highest total yield over 3 or 4 production years. Kura clover yields of 7.2 to 8.3 Mg ha^{-1} were second to lucerne by the third production year but long-term performance was diminished by stand thinning. Kura clover and white clover had lower fiber concentrations and greater protein concentrations and forage digestibility than red clover and lucerne. Kura clover can be a source of high quality forage in Europe, but can not be recommended for use in areas with known *Sclerotinia trifoliorum* presence until resistance to this pathogen is developed.

Dry matter yield of four legumes sown at two locations in Poland in 2010 and harvested three times per year.

	Lisewo Malborskie				Mochełek				
Legume	2011	2012	2013	Total	2011	2012	2013	2014	Total
	- Mg ha^{-1} -								
Lucerne	22.6 b[1]	16.2 d	17.9 c	56.7 A[2]	7.4 cd	15.2 a	12.0 b	15.4 a	50.0 A
Red clover	26.5 a	5.0 g	2.2 h	33.7 B	11.7 b	2.7 gh	1.7 h	—	16.1 C
White clover	12.5 e	4.6 g	5.3 fg	22.4 C	5.3 ef	4.9 ef	4.0 fg	4.7 ef	18.9 C
Kura clover	7.2 f	5.0 g	4.4 g	16.2 D	3.7 fg	8.2 c	8.3 c	5.8 de	26.0 B
	- groundcover (%) -								
Lucerne	100 a[3]	100 a	100 a	-	90 b	100 a	100 a	100 a	-
Red clover	100 a	35 d	15 e	-	100 a	25 h	5 i	0 i	-
White clover	100 a	90 b	65 c	-	100 a	90 b	75 de	60 f	-
Kura clover	85 b	70 c	30 d	-	85 bc	80 cd	70 e	45 g	-

[1]Yield values within a location, across legume and over years, followed by different lower-case letters are different at $P < 0.05$ based on LSD.

[2]Total yield values within a location followed by different upper-case letters are different at $P < 0.05$ based on LSD.

[3]Ground cover values within a location, across legume and over years, followed by different lower-case letters are different at $P < 0.05$ based on LSD.