Yield of new brassica cultivars

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Several new European cultivars of four Brassica fodder species on sale in New Zealand were sown for comparison with traditional cultivars (marked t in the tables) at Hamilton in November 1983/84.

Methods

Two trials with five replicates were sown by drill on fallowed silty loam with 200 kg/ha of superphosphatemolybdenum (0.015%). Swedes and turnips were sown at =1 kg/ha; other species at =4 kg/ha. Above ground herbage and roots were harvested from quadrats. Herbage was mown from Trial A on Jan. 17. Diazinon was applied to control cabbage moth caterpillar in December.

Results and Discussion

Summer rainfall was 44 mm (52% of the long term average). For the November- April period, rainfall was 259 mm (100% of the long term average). Pest damage was worst on kale and least on Simax and turnips. Simax turnip-rape was the most productive cultivar in the rape and kale section (P<0.05).

Table 1. Yields from Trial A, sown 2 November 1983

Species and cultivar		Plants/m ²	Dry matter yield (t/ha)				
			Herbage	Regrowth	Roots	Total	
		Dec. 2	Jan. 17	May 9	May 9		
Rape	Rangit	40 a*	1.90 ab	1.75 b	-	3.66 bod	
	Giant†	41 a	1.99 ab	1.37 b	-	3.36 cde	
	Kentan	39 ab	1.91 ab	1.14 b	-	3.05 de	
	Simax (turnip-rape)	34 ab	2.33 a	3.06 a	1.46 c	6.85 a	
Kale	Chou moelliert	30 b	1,10 d	0.96 b	-	2.06 e	
	Grüner angeliter	34 ab	1.19 d	1.91 b	-	3.10 de	
Swede	Ruta	18 c	1.10 d	1.82 b	3.60 a	6.65 a	
Turnip	York globet	17 c	0.94 d	0.92 b	2.76 ab	4.62 bc	
	Green globet	19 c	1.79 b	1.05 b	1.71 bc	4.55 bed	
	Mammoth purple topt	16 c	1.70 bc	1.70 b	1.63 bc	5.04 b	
	Vobra	11 c	1.30 c	1.20 b	1.69 bc	4.19 bcd	

Table 2. Yields from Trial B, sown 25 November 1983

Species and cultivar		Plants/m ² Mar. 8	Dry matter yield (t/ha)				
			Herbage	Cumulative yield April 17			
			Feb. 22	Herbage	Roots	Total	
Rape	Rangit	20 b+	1.32 ab	3.79 a	-	3.79 a	
	Winfred	27 a	1.40 a	4.03 a	-	4.03 a	
Swede	Champion purple topt	9 c	0.52 b	1.67 b	1.82 a	3.49 a	
	Ruta	8 c	0.89 ab	2.51 ab	2.36 a	4.87 a	
Turnip	Mammoth purple topt	11 c	1.29 ab	2.75 ab	1.65 a	4.40 a	
	Arka	10 c	1.42 a	2.74 ab	2.72 a	5.46 a	

* Means followed by the same letter do not differ significantly (P<0.05).

Within individual species, the other new cultivars were as productive as the traditional ones. Root consumption by sheep was measured on Trial A in May and averaged 908 for Ruta and York Globe, and 62% for the other cultivars (p<0.05). Drier conditions and a less compacted seed bed may explain the lower density in Trial B. Of the newer cultivars, Simax deserves trial at both the rape and turnip rates of seeding.