

Comparison of pasture varieties & mixes

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Key findings

- Tillage Radish and pasture mixes Timok + Moby and Timok + Wintaroo were the best performing annual pastures ranging from 1.38 – 2.27 t DM/ha.
- All pasture varieties and mixes produced similar biomass when re-growth was assessed four weeks after simulated grazing.

Aim

A small pasture trial was conducted at Hart in 2023 (Table 1) to evaluate the performance of a range of pasture varieties and mixes in the medium rainfall zone of the Mid-North on a calcareous clay loam soil (Figure 1).

Methodology

The trial was a randomised block design with three replicates and 14 pasture varieties and mixes (Table 2). This trial was managed with the application of pesticides to ensure an insect-free canopy. Grazing simulation was conducted on July 25 by taking 1 x 1 m² biomass cuts from each plot. A second cut to measure pasture re-growth was conducted four weeks later on August 21. Pasture cuts were oven dried at 40°C for 72 hours to measure kilograms of dry matter per hectare (kg DM/ha). Data was analysed using ANOVA model in Genstat 23rd Edition.

Table 1. Trial details for 2023 pasture varieties and mixes comparison at Hart, SA.

Plot size	1.75 m x 10.0 m	Fertiliser	Seeding: MAP (10:22) @ 80 kg/ha
Seeding date	May 12, 2023		
Location	Hart, SA		
Grazing cut 1	July 25, 2023		
Grazing cut 2	August 21, 2023		



Figure 1. Pasture variety trial plots at the Hart field site on August 17, 2023.

Results

Pastures established late after a May 12 sowing in 2023, with emergence occurring in cold conditions at the end of May. Tillage Radish and pasture mixes Timok vetch + Moby barley and Timok + Wintaroo oats were the best performing annual pastures, ranging from 1.38 – 2.27 t DM/ha. All varieties and mixes performed similarly when pasture re-growth was measured in August, ranging from 112 – 558 kg DM/ha. The value of below ground plant material (for pasture options including Tillage Radish and Smart Radish) was not measured, however it would be expected to provide additional feed value to livestock.

Table 2. Performance of pasture varieties and mixes expressed as kg DM/ha. Biomass cuts for the HDL blend (Bartolo bladder clover 20%, Cavalier spineless burr medic 30%, Cobra balansa 10%, Dalsa sub clover 20% & Persian clover 20%) and Penfield barrel medic were not conducted in July due to delayed establishment; these pastures were estimated to be < 100 kg DM/ha (not included within analysis). Lettering within each column represents significance, pastures with the same letter are not significantly different.

Pasture type	Sowing rate (kg/ha)	July 25 (kg DM/ha)	August 21 (kg DM/ha)
HDL Blend	25	<100	199
Penfield barrel medic	15	<100	243
Timok	50	478 ^a	558
Studenica	50	482 ^a	449
Bouncer forage brassica	3	529 ^a	265
Timok + Smart Radish	30 + 4	754 ^{ab}	373
Subzero forage brassica	3	841 ^{ab}	112
Timok + RGT Nizza CL	45 + 3	841 ^{ab}	351
Timok + Tillage Radish	30 + 4	848 ^{ab}	188
RM4	45	917 ^{ab}	333
Smart Radish	8	1044 ^{ab}	181
Timok + Wintaroo	30 + 70	1380 ^{abc}	380
Timok + Moby	30 + 70	1540 ^{bc}	529
Tillage Radish	8	2268 ^c	272
LSD (P≤0.05)		972	NS

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