

Fernanda Bortolini

MORPHOLOGICAL AND AGRONOMIC TRAITS OF THREE ARROWLEAF CLOVER POPULATIONS

Bortolini,F; Duarte,JG; Mittelmann,A; Rosa,TC; Pires,ES;

Embrapa Temperate Agriculture; Embrapa Temperate Agriculture; Embrapa Temperate Agriculture;
Embrapa Temperate Agriculture; Embrapa Temperate Agriculture;

The Arrowleaf clover (*Trifolium vesiculosum*) is a cool season annual forage specie with high percentage of hard seed and good reseeding ability. The objective of this study was to compare morphological and agronomic traits of three Arrowleaf clover populations: TV01 (selected from the cultivar Embrapa-28 'Santa Tecla'), TV02 and TV03 (derived from cv. Yuchi). The field experiment was carried out at the Lowland Experimental Station of Embrapa Temperate Agriculture, at the city of Capão do Leão, RS, Brazil. The experimental design was a randomized block design with 13 replications. Sowing was done on May 12th of 2011, using pelleted seeds with specific *Rizhobium* inoculant (SEMIA 2050 + 2051), in rows of 14 m spaced 0.20 m. The evaluations were performed on six plants per line to the following traits: plant height at 90, 120 and 130 days after seeding, plant diameter, initial vigor - visual notes from 1 (lowest) to 5 (highest); central leaflet length and width; leaf color - visual note from 1 (light green) to 5 (dark green), petiole length, number of inflorescences, fresh and dry forage yield and dry leaf yield. There were significant differences among the populations for plant height at 90 days, diameter, initial vigor, fresh and dry forage yield and dry leaf yield. The highest values were observed for the populations TV01 and TV02, which did not differ significantly, but differed from the population TV03. Dry forage yield of the populations TV02 and TV01 populations were 6432 and 6689 kg/ha, respectively, while population TV03 yielded 4682 kg/ha. The same was found for dry leaf yield, with 1838.70 and 2246.49 kg/ha to TV01 and TV02 and 1209.18 kg/ha to TV03. In relation to height, diameter and initial vigor, TV01 had 9.82 cm, 15.45 cm and 4.04, respectively. TV02 did not differed from TV01, with 9.67 cm, 15.52 cm and 4.12 and TV03 differed from the previous two with 8.30 cm, 14.23 cm and 3.16. The variables, length and width of central leaflet did not differ among populations, with 5 and 3 cm in average, respectively, as well as the average length of petiole with around 14 cm for the three populations. There were differences among populations for morphological and agronomic traits. Both populations TV01 and TV02 had better initial development as well as better forage production when compared to population TV03.