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Birdsfoot trefoil (*Lotus corniculatus)* seed production with different defoliation and harvest times

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Lotus corniculatus is a perennial forage legume species introduced in Argentine because its adaptation to grow and survive in low fertility and poorly drained soils. In addition birdsfoot trefoil presents good nutritional value, efficient forage accumulation and it is a non bloating legume. Since growth of the plant is indeterminate, flowers and fruits of all stages of development may occur simultaneously on the same plant. The main reason for low harvest seed yields, is the indeterminate flowering and unpredictability of pod shatter. Since lotus has an extended flowering period, deciding when to harvest lotus seed crops is very difficult.

This feature, along with the sudden rupturing of the seed at maturity, makes the harvesting of a large proportion of the total seed crop difficult under many conditions. The objective is to evaluate seed yield and quality, with four dates of defoliation in the year of implantation, at two different time of harvest.

Two trials were sown, one by each harvest, with cultivar Gladiador, in plots of 25,6 m^2, 8 rows of 8 m long, spaced 0,4 m; in Latin square design. A number of 18,1±3,6 plant.m^{-2} were obtained. The defoliation date treatment were: D1: no defoliated; D2: 10/01/07; D3: 11/02/07 and D4: 12/03/07. First harvest (C1) was performed before registering pod dehiscence (shattering) and the second (C2) one week later, both with two samples of 1 m^2 by plot.

In C1, D3 and D4 (255,5 kg.ha^{-1}) in average they rendered more than D1 and D2 (81,5 kg.ha^{-1}). In C2 was obtained higher yield of seed (461 kg.ha-1) and heaviest (1306 mg); D3 treatment produced the maximum, 1033 kg.ha^{-1}, with seeds of lower weight 1227 mg.

In C1, D3 and D4 in average had more hard seeds (D, 12%) without germination differences (PG). In C2, the PG average (74%) was superior, with the greater number of D (16%) and minor of died (4%).

High yield of quality seed is obtained when the defoliation occurs early in November and the harvest is done at the start of pod dehiscence.