



Effect of Nitrogen Fertilization and Foliar Zinc Spraying on the Yield, Yield Components, and Seed Recovery of Berseem (*Trifolium alexandrinum* L.)

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Abstract

Domestic production of berseem seeds is very low; therefore, we import many seeds. Seeds of berseem can be produced where research on seed production is preferred, as most research works on berseem were conducted on forage production only. Thus, an experiment comprising four levels of nitrogen (0, 15, 30, and 45 kg ha⁻¹) and four levels of foliar zinc (0, 400, 600, and 800 g ha⁻¹) was designed with the purpose to find out appropriate levels of nitrogen and foliar zinc to get maximum seed yield of berseem. The experiment was conducted at the Agronomy Research Farm of The University of Agriculture Peshawar during winter 2014-2015 by using a randomized complete block design replicated three times. The results indicated that both nitrogen and foliar zinc application significantly ($P < 0.05$) influenced fresh (13219.41 kg ha⁻¹) and dry fodder yield (5538 kg ha⁻¹), head m⁻² (1963), number of seeds head⁻¹ (50), biological yield (8535.4 kg ha⁻¹), thousand seed weight (2.6g), seed yield (261 kg ha⁻¹), seed recovery (68%). A significant effect was recorded only by different nitrogen levels on the number of flower head⁻¹ (78) and harvest index (3.19%), whereas zinc significantly influenced plant height (80 cm). Both nitrogen and foliar zinc application increased fresh and dry fodder yield, plant height, head m⁻², seed head⁻¹, thousand seed weight, seed yield, and seed recovery. It was concluded that the application of nitrogen (45 kg ha⁻¹) and zinc (600 g ha⁻¹) in foliar spraying produces the maximum yield of the berseem crop.

Keywords: *Trifolium alexandrinum* L., Nitrogen, 1000 grain weight, seed yield kg ha⁻¹, Seed Recovery %.

Article Info:

Received:

February 18, 2021

Received Revised:

July 07, 2021

Accepted:

July 20, 2021

Available online:

September 11, 2021

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