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Short Communication

Seed treatment with mineral nutrient products for growth in spring oilseed rape (*brassicanapus* l.)

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INTRODUCTION

Seed treatment with mineral and nutrients in spring oilseed rape (SOR) has the potential to enhance the result of production. The Research the consequences of mineral nutrients applied as seed treatment on germination and growth of roots and biomass in SOR. Seed yield and oil content were also measured. Seven products with different composition of mineral nutrients were applied to the seed during a com-bination with binder, filler and fungicide or applied directly onto the seed Ekbom (2010). The Treatment with mineral nutrients increased the plant size at stage early flowering stage, The increased plant size didn't influence seed yield. Furthermore, when seeds were treated only with a nutrient product the addition decreased plant size by 10% on the average and seed and crude fat yields by 4% on the average Engels and Marschner (1992).

The flowering rapeseed fields represent a crucial cornerstone of Nordic crop production. Production of rape-seed oil and rapeseed meal provides valuable food and feed with a balanced nutritional composition, and increased use of rapeseed as an energy source is a crucial step towards a sustainable bioeconomy. Spring oilseed rape (SOR) (Brassica napus L.) may be a profitable branch of production, however, with sharply decreased acreage in Sweden as a results of major insect problems. Cultivation of SOR is usually related to high from insect pests. Flea beetles (Psylliodes spp), blossom beetles (Brassiogethes aeneus), and diamondback moths (Plutella xylostella),threaten crops and thus an in depth use of insecticides is required Gupta (1993).

Seeds of SOR (cv. SW Majong) were treated with seven different products containing mineral nutrients: Omex Canola: P, K, Zn, Mn + essential micronutrients (Omex Canada), Raps: Mn, S, Mg, B, Mo, N, NoroTec™ WinterCrop Plus: P, Mg, S, Mn, Zn, N, Zn: P, Mg, S, Mn, Zn, N (NoroTec™, Sweden), Yara F3493: P, K, Zn, Mn, Yara F3501: P, K, Zn, Yara 3516: P, Mn, Zn, Cu (Yara, Sweden). All products. The products were applied to the seed mixed with a binder 4 g kg-1 of seed (Sepiret 386 Blue, BASF), seeds were also treated with nutrient solutions without adding BFF (– BFF), thus, the nutrient products were sprayed directly onto the seeds and therefore the number of treatments was duplicated. there have been also controls without nutrient application Farooq et al. (2012). The control was treated with BFF (control + BFF), and, in 2017, there was one control treated with BFF (control + BFF) and one control treated solely with water (6 ml kg-1 seed) (water – BFF). The seed treatments were performed in an industrial batch seed treater at the agricultural Economy and Agricultural Society, Department of Seed Technology, Sweden. Each seed treatment was performed in four replicates.

Seeds with and without application of BFF were analysed for mineral nutrients in 2016 (N, P, K, Ca, Mg, Na, S, Cu, Zn, B, Mn, Fe and Al) at Eurofins Agro Testing, Kristianstad, Sweden. The BFF products utilized in this investigation were analysed for Cu, Fe and Al (Eurofins Food & Agro Testing Sweden AB, Lidköping, Sweden) (Marcar & Graham, 1986).

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