

Evaluation of Seven Sub-Varieties of Brussels sprouts for Yield, Uniformity of Vegetative Buds and Sensitivity to Diseases

Project Justification: Within the vegetables, Brassica crops rank third among the major vegetable producing botanical groups in developed countries after potatoes and tomatoes, ranking also in third in consumption (FAO, 1992).

Brussels Sprouts (*Brassica oleracea* var. *gemmifera*) are getting more and more

attention among consumers due to their nutritional characteristics. They have high water content and low fat and carbohydrates contents (which makes them low in calories), relatively high protein content (4% of fresh edible part), important level of vitamins (especially the two carotenoids anti-oxidants and vitamin C), important level of Lutein, and the highest amino acid content among vegetables (Gómez-Campo, 1999). While Brussels sprouts have this great nutritional and economical importance, they are labor intensive and prone to diseases (Club Root, black rot, downy mildew, and white mold). The objective of this study is to evaluate 7 sub-varieties of Brussels Sprouts for yield, size and uniformity of vegetative buds (which increases their marketability as stalks instead of buds, and which decreases the labor costs), and for sensitivity to diseases (which decreases the loss costs).



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Approach: Seedlings of Brussels Sprouts were transplanted to the field in Mid-June 2017. The experiment is laid out in a randomized complete block split plot design, with seven Brussels sprout sub-varieties (Vancouver, Franklin, Nautic, Diablo, Dimitri, Roodnerf and Oliver) as the main plots and two treatments (topped and non-topped) as the subplot in five replicates. Individual plots consisted of raised beds with 2 m space left between the blocks. Ten Brussels sprouts plants from each of the 7 sub-varieties (5 topped and 5 non-topped) were planted in each block with a total of 70 sample plants in addition to 4 guard plants to eliminate the edge effect. Row (Block) distance was 90 feet and the plants were spaced 40 cm apart within the row. The blocks were replicated 5 times. Data to be collected are yield, number of vegetative buds/sample plant, size of buds and sensitivity to diseases. The data will be statistically analyzed using Regression Analysis and Analysis of Variance (ANOVA) to test for significance of main effects and interactions.

Expected results:

The evaluated sub-varieties will show differences in term of size and uniformity of vegetative buds, sensitivity to diseases and response to topping. This study will show which ones are economically better to grow.

References:

FAO. 1992. FAO Production Yearbook. Vol. 46

Gómez-Campo, C. and S. Prakash. 1999. Biology of Brassica coenospecies. Elsevier Science. B.V. Amsterdam. The Netherland.