



## **Title: PRODUCTIVITY OF A COLLECTION OF BUTTERNUT SQUASH IN VILLA MERCEDES, PROVINCE OF SAN LUIS, USING TWO PLANTING SYSTEMS**

**Scientific Track: Horticultura - producción**

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Argentina faces challenges in optimising population diet for quantity and diversity of horticultural products, given that consumption is only a third of that recommended by the WHO and tending to decrease, and that only four species represent 70% of total consumption. With the objective of promoting the expansion of a promising crop, butternut squash, a completely randomised trial was initiated in San Luis, Argentina (33°39'29" S 65°28'82" W) between 8/12/2015 and 11/04/2016, aimed at evaluating the productivity (yield in kg.ha<sup>-1</sup>, plus units.ha<sup>-1</sup>) under two planting systems (transplanted pot-grown seedlings (MT) and direct drilling (SD)) at a plant density of 0.8 x 2.5 m, of the following collection of innovative cultivars from INTA-La Consulta: Dorado INTA-MAPO, Paquito-INTA, Cuyano-INTA, Frontera-INTA and Cokena-INTA, with the following results. MT gave 35% more units.ha<sup>-1</sup> than SD (MT: 25524<sup>a</sup> and SD: 18905<sup>b</sup>) and 43.4% more yield (MT: 25476<sup>a</sup> and SD: 17762<sup>b</sup>). The highest yielding genotypes were Frontera-INTA: 33013<sup>a</sup>, Cokena-INTA: 28957<sup>ab</sup> and Dorado-INTA-MAPO: 24015<sup>bc</sup>, whereas those producing the highest units.ha<sup>-1</sup> were Frontera-INTA 26190<sup>a</sup>, Dorado-INTA-MAPO: 24047<sup>ab</sup> and Cuyano-INTA: 21905<sup>abc</sup>, followed by Cokena-INTA: 20119<sup>bc</sup> and Paquito-INTA: 18809<sup>c</sup>. Under MT, the highest yielding genotypes were Cokena-INTA: 37024<sup>a</sup>, Frontera-INTA: 36934<sup>a</sup> and Dorado-INTA-MAPO: 27348<sup>a</sup> kg.ha<sup>-1</sup>, and the highest units.ha<sup>-1</sup> were given by Frontera-INTA 29524<sup>a</sup>, Dorado-INTA-MAPO: 26905<sup>a</sup> and Cokena-INTA: 25476<sup>a</sup>. Two of these high performers were the best under SD: Frontera-INTA: 29093<sup>a</sup> and Dorado-INTA-MAPO: 26683<sup>b</sup> kg.ha<sup>-1</sup> and Frontera-INTA: 22857<sup>a</sup> and Dorado-INTA: 21191<sup>a</sup> units.ha<sup>-1</sup>. In conclusion, the yield of Frontera-INTA and Cokena-INTA in San Luis was encouraging, especially under MT.

### **Short Biography (Up to 100 words)**

Agronomical Engineer Sergio Alejandro Luna is currently working as Teaching Assistant at the National University of San Luis. Agr. Luna has authored several publications in various journals. His publications reflect his research interests in Horticulture. Agr. Luna is serving as a member of the Argentinean Association of Horticulture. He is currently a member the research project “Bio-Horticulture at 0 km” – PROICO No. 140718 (2018-21).

### **Research Interest:**

Scientific and technological research and diffusion in relation to Horticulture.

**Keywords:** horticultural crops, research, production

### **References:** (Optional)

Luna, S. A., Bazán, P. L., Castagnino A. M., Escudero A. S., Martínez, A.N., Funes, M. B., Della Gaspera, P. Ex-Aecquo. Evaluación de técnicas de inicio del cultivo de zapallito en Villa Mercedes, San Luis. Horticultura Argentina 37 (93): 43-52. ISSN de la edición on line 1851-9342

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