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New cultivar report

INCASoy-2, new cultivar of soybean (*Glycine max* L.)

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ABSTRACT

The new red soybean variety, INCASoy-2 was selected within the INCASoy-24 cultivar in the experimental area of the National Institute of Agricultural Sciences, during the spring sowings of 2018, due to a spontaneous mutation. Seeds of the selected plant were sown, subsequently, in summer and winter of the same year, giving small segregations of yellow seeds, with a phenotypic behavior similar to its parent. The most notable differences are the reddish-brown color of seed testa, the greater height of this new variety, earlier maturity than INCASoy-24 and greater agricultural potential.

Key words: mutation, seed, seed testa

INTRODUCTION

The new red soybean variety originated as a result of a punctual variation due to a spontaneous mutation and adapted very well to region climatic conditions (Mayabeque) with the possibility of planting it throughout the year, which allows the availability of fresh seed at all times.

REPRODUCTIVE CYCLE

The reproductive cycle of this new cultivar is described in Table 1.

Table 1. INCASoy-2 crop production cycle

Vegetative stages		Days	Reproductive stages		Days
VE	Emergence	4	**R1**	Blooming beginning	33
VC	Cotyledons	5	**R2**	Full bloom	41
V1	First node	8	**R3**	Beginning of pod formation	43
V2	Second node	13	**R4**	Full pod formation	51
V3	Third node	16	**R5**	Beginning of grain coarsening	54
V4	Fourth node	21	**R6**	Full grain coarsening	75
V5	Fifth node	27	**R7**	Beginning of ripening	82
V6	Sixth node	31	**R8**	Full ripening	97

MORPHOLOGICAL DESCRIPTION

The seedling of this new variety has a light green hypocotyl and cotyledons like its donor. As time goes by it develops a rigid and erect branched stem of 8.5 mm in diameter with tawny pubescence. The new variety (Figure 1) is indeterminate in growth, the plant can reach 35 nodes, five branches and 120 cm in height. The cutting height (height at which the first pod emerges) is 12 cm. The root system is powerful, with the main root that can reach up to 60 cm deep. Its leaves are large oval lanceolate dark green, tawny pubescence and relief of weak ribbing. Its white flowers are inserted in axillary clusters in a number of six to seven per inflorescence 33 days after emergence.

The plant emits pods of 4.5 cm long covered with hairs of brown color like the legume bottom. They are dispersed throughout the plant stem. Its spherical grains of 4.5 mm in diameter are reddish-brown. The plant can produce about 116 pods, averaging five pods per node and 2.7 grains per pod. On a single plant can be counted 305 grains. The weight of 100 grains is 15.98 grams and a plant has a yield of 48.89 grams for a productive potential of 3.7 tons per hectare.

The sowing frame is 70 cm between rows and 4 cm between plants for a population density of more than 357,000 plants ha^{-1} with good ripening capacity, resistance to lodging and shattering (dehiscence). The new INCASoy-2 variety completes its productive cycle at 97 days. It can be planted all year round and used for both animal feed and human consumption.

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Figure 1. Soybean field, INCASoy-2 cultivar in reproductive stage and its seeds

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