



ISRA LP-24. New rice (*Oryza sativa* L.) cultivar of medium cycle, obtained by hybridizations

ISRA LP-24. Nuevo cultivar de arroz (*Oryza sativa* L.) de ciclo medio, obtenido por hibridaciones

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ABSTRACT: In the Base Scientific and Technological Unit "Los Palacios" (Unidad Científico Tecnológica de Base, UCTB), belonging to the National Institute of Agricultural Sciences (INCA), a new medium cycle cultivar was obtained through hybridizations. Its characteristics include excellent agricultural and industrial yields and tolerance to the main pests. Its behavior was validated in areas of small producers of agricultural cooperatives.

Key words: cereals, traditional plant breeding methods, new genotype.

RESUMEN: En la Unidad Científico Tecnológica de Base (UCTB) "Los Palacios", perteneciente al Instituto Nacional de Ciencias Agrícolas (INCA) se obtuvo, mediante hibridaciones, un nuevo cultivar de arroz de ciclo medio. Entre sus características se destacan excelentes rendimientos agrícola e industrial y tolerancia a las principales plagas. Su comportamiento ha sido validado en áreas de pequeños productores del Sector Cooperativo.

Palabras clave: cereales, métodos tradicionales de mejoramiento vegetal, nuevo genotipo.

INTRODUCTION

Rice is the most important cereal in the developing world, it constitutes the staple food for more than half of the planet's population and in South America and the Caribbean, and it is the main energy source for the low-income population. Cuba is one of the countries that registers high values of rice consumption with 72 kg per capita per year, so it is betting to the national production of this grain to small and medium scale, but up till now the national production only satisfies the 50 % of needs. For this reason, rice breeders are working in the search of new cultivars that combine good yields and tolerance to biotic and abiotic factors. The National Rice Breeding Program try to find how increase constantly the yield potential of this cereal through various strategies to respond to country's needs. This has been based mainly in hybridizations, through which most of the commercial cultivars that are sown at the moment were obtained and that have benefited the varietal structure in the country; However, the progress made, it is necessary to continue working intensively in this endeavor for further enrich this national germplasm with superior cultivars that have diverse genetic sources and

capable of adapting to the heterogeneous cultivation conditions. The aim of this report is to announce the characteristics of a new medium-cycle cultivar with good yields, obtained in Cuba, through hybridizations.

DESCRIPTION

The medium cycle cultivar ISRA LP-24 was obtained in the Base Scientific and Technological Unit "Los Palacios" by using simple hybridizations of the progenitors INCA LP-4/ Vietnamita 2084 and applying the Pedigree selection method. After being characterized (Table 1), it was evaluated in the superior yield trials, using a completely randomized design with three repetitions, from generation F8 to F10 and using INCA LP-4 and INCA LP-7 cultivars as a controls. Subsequently, it was validated in areas of agricultural cooperatives of Los Palacios and La Palma municipalities with different edaphoclimatic conditions, where it has shown good behavior as to morphoagronomic characters, agricultural and industrial yields, as well as tolerance in the field to the main pests that affect this crop (Figure 1). For the characterization, the Standard Evaluation System for Rice, 5th Edition (2013) of the International Rice Research Institute was used.

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Table 1. Characteristics of the new medium-cycle rice cultivar ISRA LP-24.

Vigor	Vigorous
Cycle	Mid
Plant erection	Erect
Plant height (cm)	122 (Intermediate)
Flag leaf length (cm)	27.8
Flag leaf width (cm)	1.5
Flag leaf angle	Erect
Leaf blade color	Green
Leaf blade pubescence	Pubescent
Anthocyanin leaf pigmentation	Absent
Leaf senescence	Late
Sheath color	Green
Ligule shape	Cleft
Ligule color	White
Stigma color	Yellowish white
Lemma and palea pubescence	Short hairs
Lemma and palea color	Straw
Awn	Absent
Panicle type	Intermediate
Panicle exertion	Well exerted
Panicle length (cm)	24.9
Grain length (unhusked rice) (mm)	9.5
Grain width (unhusked rice) (dm)	2.0
100-grain weight (unhusked rice) (g)	29.8
Pericarp color	Pearl
Filleg grains per panicle	136
Fertile tiller / m ²	432
Potential yield (unhusked rice) (t/ha-1)	Dry season- 7.9 / Rainy season-6.4
Full grain percentage (%)	63
Lodging resistance	Resistant
Shattering resistance	Intermediate
<i>Pyricularia grisea</i> resistance	Resistant
<i>Tagosodes orizicolus</i> resistance	Resistant



Figure 1. New rice cultivar ISRA LP-24.