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REGISTRATION OF OF PLANT VARIETY | ORIZA sativa L. - RICE LRC JUMA 69-20



REGISTRATION OF PLANT VARIETY | ORIZA SATIVA L.- RICE LRC JUMA 69-20

#### 1. INTRODUCTION

The country is self-sufficient in rice production for national consumption, with a cultivated area of 87,088.8 ha. National rice production is 3 million tonnes, 1.5 million at each harvest. There are currently 30,000 recorded rice producers working in the sector, with 200,000 indirect jobs along the supply chain.

#### 2. RESEARCH AND DEVELOPMENT

Dominican Republic rice production used to have weed control issues, which reduced crop productivity of the crops: 'red' weedy rice is so-called because its husk colour differs from the brownish-white of the healthy plant. This rice competes for nutrients from the soil and does not allow healthy rice to develop.

The new Juma-69-20 rice variety was one of the first promises to be delivered on by the BioRice Project set up in 2014 to identify varieties that would be more profitable and at the same time allow for higher rice sector productivity. By 2017, the project had seen the introduction of a new variety and genetic improvement in two varieties. *Cristino Duran*, a plant breeder of the Rice Department of the Ministry of Agriculture, explains the process: This YQP (yield-quality-purity) technology is not new. It has been in use for some years by the University of Louisiana in the United States, where they have rescued more than one million quintals by means of similar plant breeding techniques. Plant



breeding, mutagenic induction, purification, selection and validation processes were carried out on this material from 2016 to 2020, during the three (3) annual planting cycles, which is a very short research period.

The result is intended to help national rice producers. Its main characteristic is its tolerance to the gramicides that are applied to rice crops.



In 2020 a variety was introduced that has already proved a commercial success and has set a precedent for the Dominican rice sector.



	COMPORTAMIENTO DE CAMPO						APARIENCIA DE GRANO
VARIEDAD	Rendimiento kg/ta.	Floración (días después de la siembra)	Altura (cm desde el suelo a la punta de la panícula)	Blanco Total	Blanco Entero		Yeso (% del Blanco Entero)
LRC JUMA 69-20	558	90	94	72.2	66.8		6.00
TESTIGOS							
JARAGUA FL	520	90	95	73.5	69.6		10.00
JUMA 68-18	617	91	100	71.9	62.8		6.80
PUITÁ INTA CL	559	88	96	71.3	65.5		8.40
GURÍ INTA CL	466	83	88	72.3	62.7		3.20

#### CUADRO 1 RENDIMIENTO Y CALIDAD DE LA NUEVA VARIEDAD LRC JUMA 69-20 JUMA, BONAO-PRIMERA ETAPA 2019

#### 3. FUNDING AND INTER-INSTITUTIONAL LINKAGES

Although Bio Rice holds plant breeder's rights granted by the Oficina De Registro De Variedades Y Protección De Derechos Del Obtentor (OREVADO), and registered with the UPOV, it is placed on the market through a public-private partnership (PPP): Biorice produces basic genetic seed and the private sector produces the certified seed that goes to the producers<sup>1</sup>

### 4. BRAND DEVELOPMENT AND PLACING ON THE MARKET

This joint effort involves field days for industrial producers and farms on model plots used to demonstrate the effectiveness of the seed and ease of sowing and harvesting the product. Small producers learn to irrigate the fields using technology and good agricultural practices.

<sup>1 13</sup> The certification parameters are laid down in Seed Law (Ley De Semilla) No 231 and the relevant Implementing Rules No. 271.



Currently the product is placed solely on the national market, with a 4% price premium as compared to local varieties. This margin is shared with the company placing the product on the market and is used for ongoing research and development into other varieties and to maintain experimental stations.



Today LRC JUMA 69-20 covers 62% of the country.

### 5. ENVIRONMENT

Use of plant variety LRC JUMA 69-20 has allowed less productive areas affected by red rice to be recovered. Currently the increase in land productivity achieved is about 60%. Producers have been able to reduce production costs and human resources, obtaining better profit margins.



### 6. MAIN BARRIERS

The Dominican Republic-Central America FTA (CAFTA-DR) with the US provides for free tariffs for products within the area covered by the agreement.

For sensitive products such as rice, removal of tariffs was agreed for a period of 20 years until 1 January 2025 when the FTA was signed in 2004.

The main concern for the 47% of small producers and millers is that they see themselves as disadvantaged vis-à-vis foreign competitors.

In the light of this scenario, the state has agreed to subsidise fertilisers and agricultural inputs for rice crops, with mentoring provided by the Ministry of Agriculture for small producers. Research into genetic improvement will meanwhile continue at Bio Arroz.

Diplomatic talks are underway to identify feasible solutions to avoid the collapse of the sector.

IP registration fees					
Registration of plant breeder's rights	RD\$ 8,000.00				

### 7. LESSONS LEARNED

The success of the LRC JUMA 69-20 variety has helped to drive new agricultural research aimed at solving pest control issues and increasing productivity in the Dominican Republic. Work is underway to develop new rice varieties.



The OREVADO, through the Ministry of Agriculture, also promotes breeding of other plant varieties.

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