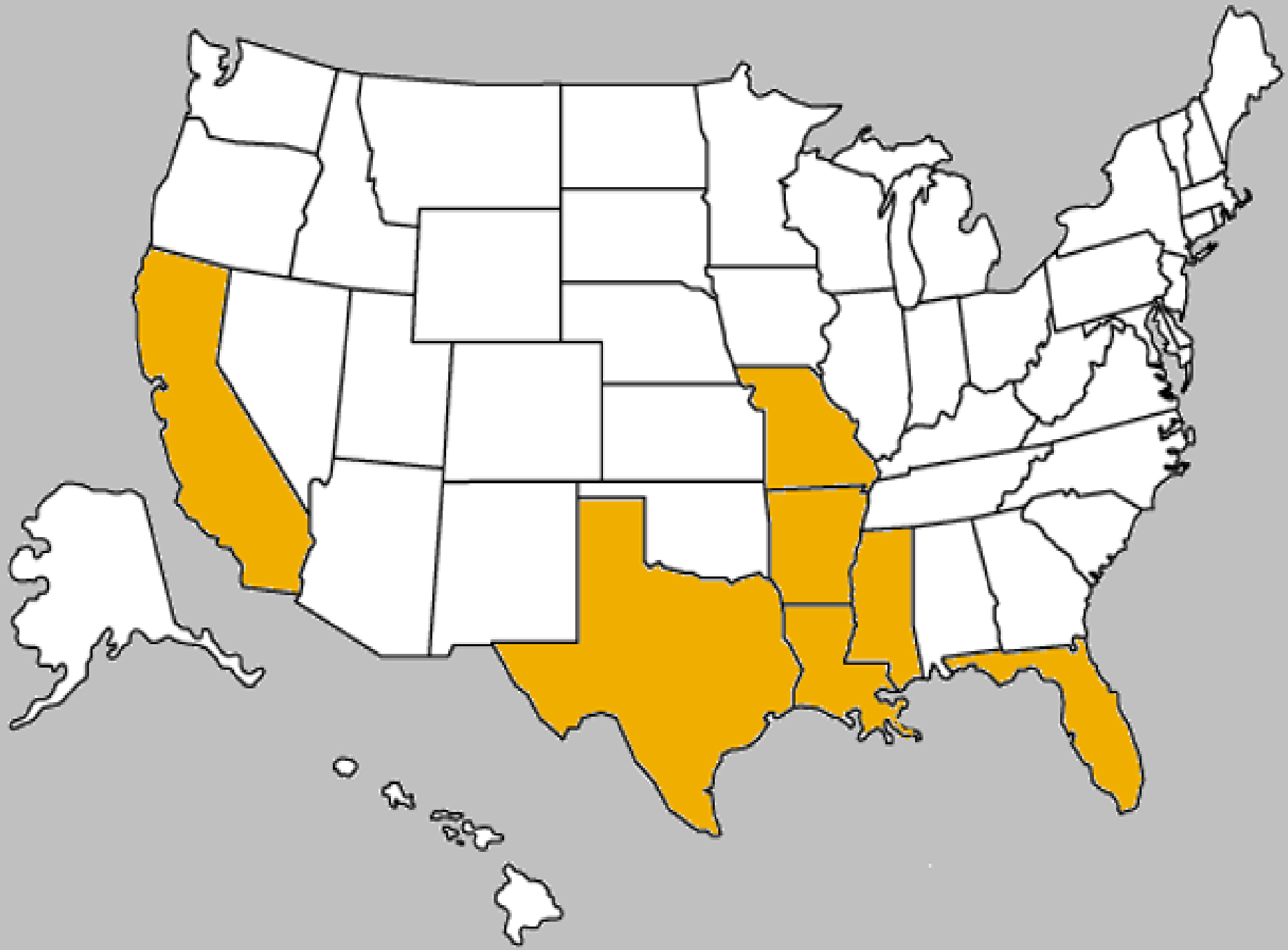


# **Rice Quality Parameters**

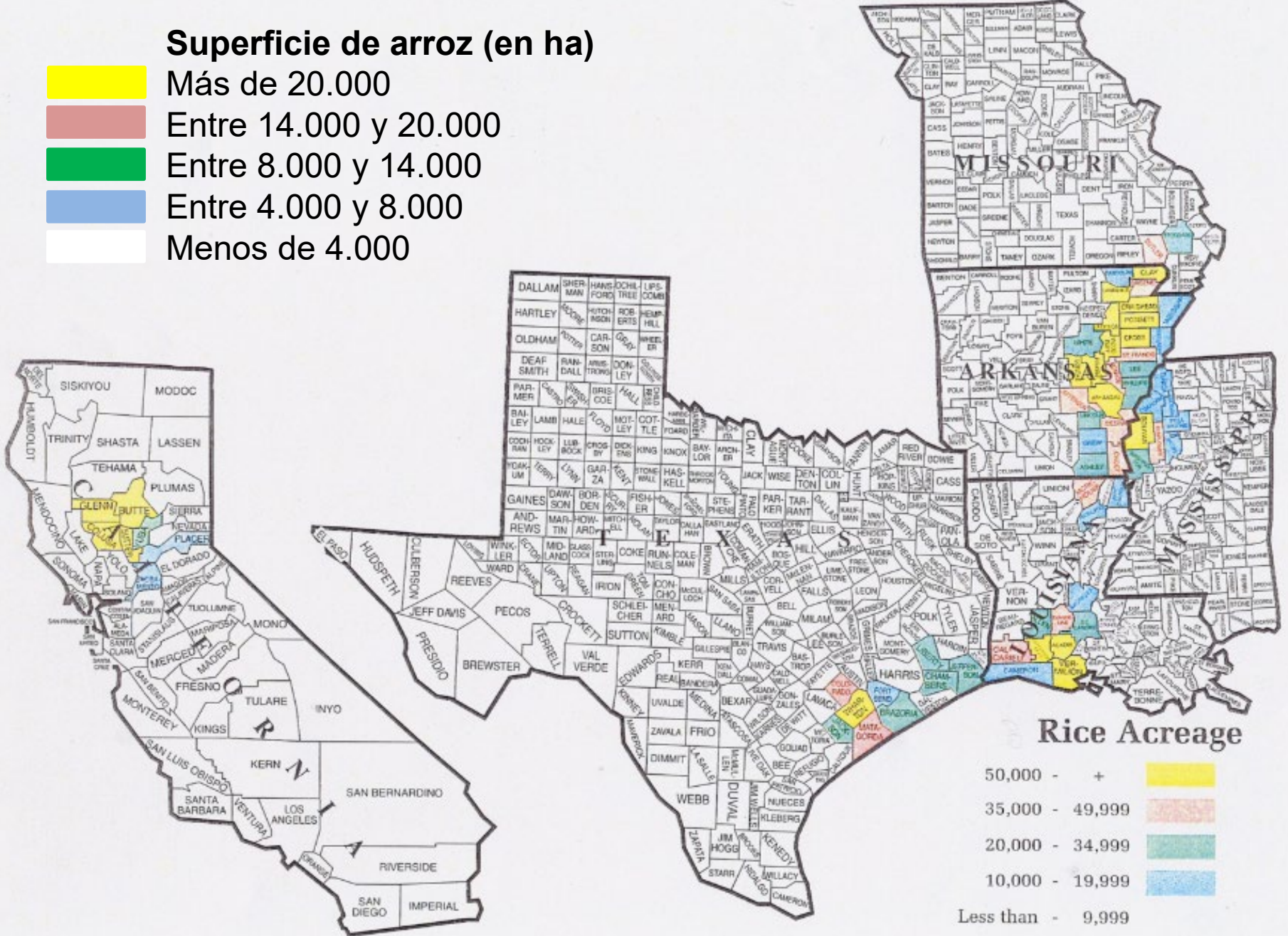
## **Parámetros de Calidad del Arroz**

**Steve Linscombe**  
**Director – The Rice Foundation**  
**Latin American Rice Quality Symposium**  
**Simposio Latinoamericano de Calidad del**  
**Arroz**  
**October 20, 2020**



# Superficie de arroz (en ha)

- Más de 20.000
- Entre 14.000 y 20.000
- Entre 8.000 y 14.000
- Entre 4.000 y 8.000
- Menos de 4.000



Rice Acreage

50,000 - +	<span style="display: inline-block; width: 20px; height: 10px; background-color: yellow; border: 1px solid black;"></span>
35,000 - 49,999	<span style="display: inline-block; width: 20px; height: 10px; background-color: #C8513D; border: 1px solid black;"></span>
20,000 - 34,999	<span style="display: inline-block; width: 20px; height: 10px; background-color: #00A651; border: 1px solid black;"></span>
10,000 - 19,999	<span style="display: inline-block; width: 20px; height: 10px; background-color: #4A86E8; border: 1px solid black;"></span>
Less than - 9,999	<span style="display: inline-block; width: 20px; height: 10px; background-color: white; border: 1px solid black;"></span>

# **Rice Quality Attributes**

**Atributos de  
Calidad del Arroz**

# Genetic Properties

## Propiedades Genéticas

- **Chemical characteristics** (Características químicas)
- **Shape** (Forma)
- **Size** (Tamaño)
- **Color**
- **Chalkiness** (Yeso)



# Acquired Properties

## Propiedades Adquiridas

- **Moisture content**  
(Contenido de humedad)
- **Physical damage**  
(Daño físico)
- **Immature grains**  
(Granos inmaduros)
- **Milling characteristics**  
(Características de la molienda)
- **Chalkiness** (Yeso)



# Amylose Content

## Contenido de amilosa

	<p>25-30% amylose content is classified as <b>High</b></p> <p>Un contenido de amilosa entre el 25% y el 30% se considera <b>Alto</b></p>	<p><b>HIGH</b> <b>ALTO</b></p>
<p>Intermediate amylose rice is preferred in most rice-growing areas of the world except where low-amylose japonicas are grown</p> <p>En la mayoría de las regiones arroceras del mundo se prefiere el arroz con un contenido intermedio de amilosa, salvo donde se cultiva arroz japónica con baja amilosa</p>	<p>20-25% amylose content is classified as <b>Intermediate</b></p> <p>Un contenido de amilosa entre el 20% y el 25% se considera <b>Intermedio</b></p>	<p><b>MEDIUM</b> <b>MEDIO</b></p>
<p>10-20% amylose content is classified as <b>Low</b></p> <p>Un contenido de amilosa entre el 10% y el 20% se considera <b>Bajo</b></p>	<p><b>LOW</b> <b>BAJO</b></p>	<p><b>30%</b></p> <p><b>20%</b></p>

**10%**

**20%**

**30%**

# Gelantization Temperature

## Temperatura de gelatinización

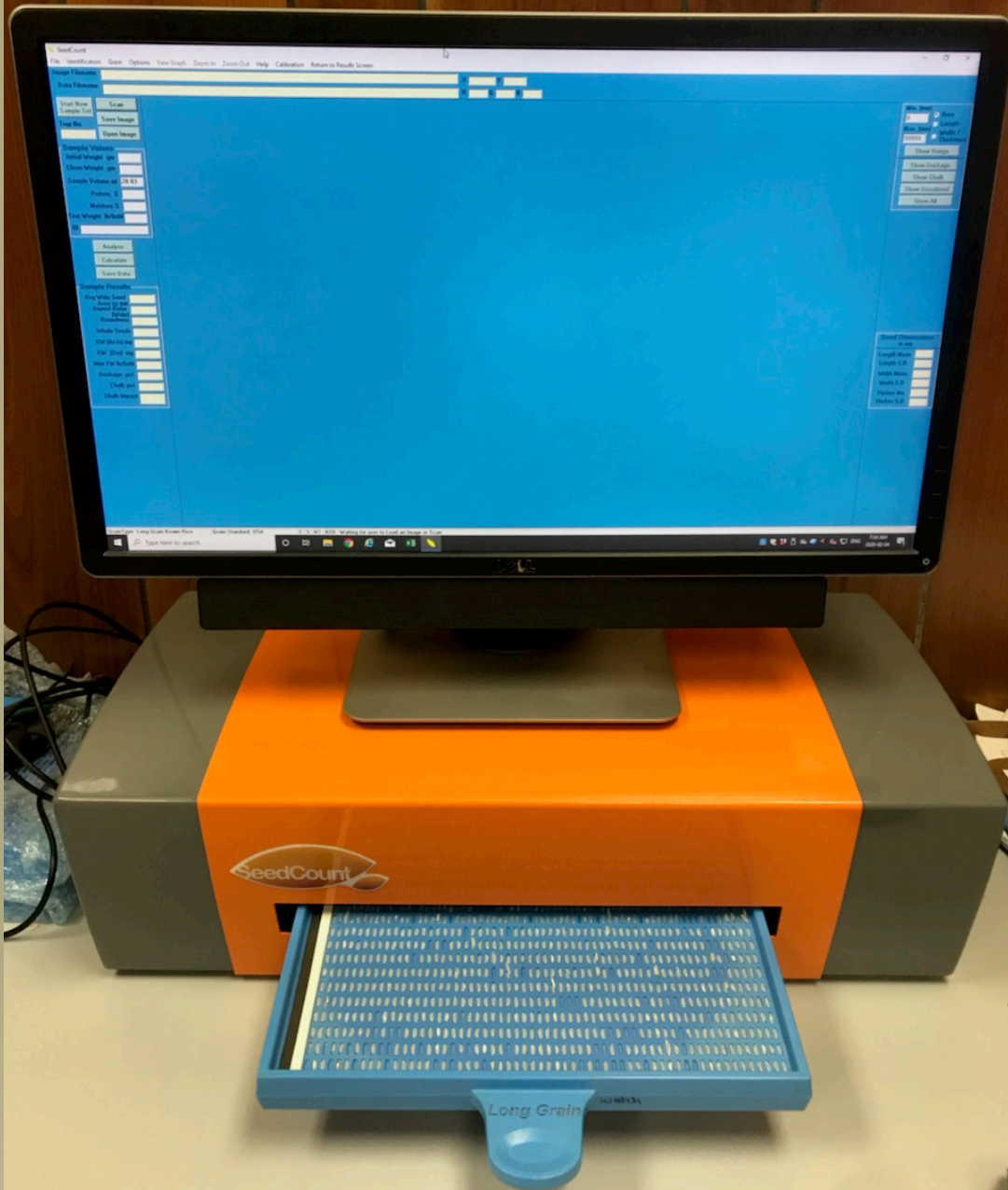
- **Time required for cooking** (Tiempo necesario de cocción)
- **Measured by alkali spread factor** (Medido mediante factor de dispersión alcalina)
- **Environment affect- higher temperature during growing season - higher gelatinization temperature** (Efecto del ambiente: a mayor temperatura durante la temporada de crecimiento, mayor temperatura de gelatinización)

### **Classification** (Clasificación):

- **1-2 high** (alta) (74.5-80°C),
- **3, high intermediate** (intermedia alta),
- **4-5, intermediate** (intermedia) (70-74°C),
- **6-7, low** (baja) (<70°C)



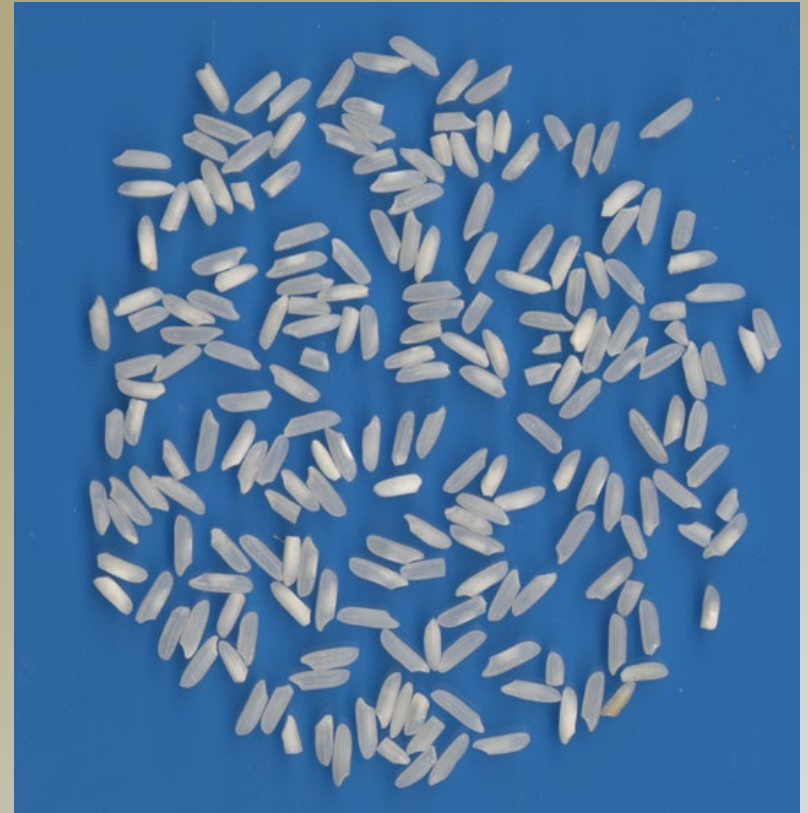




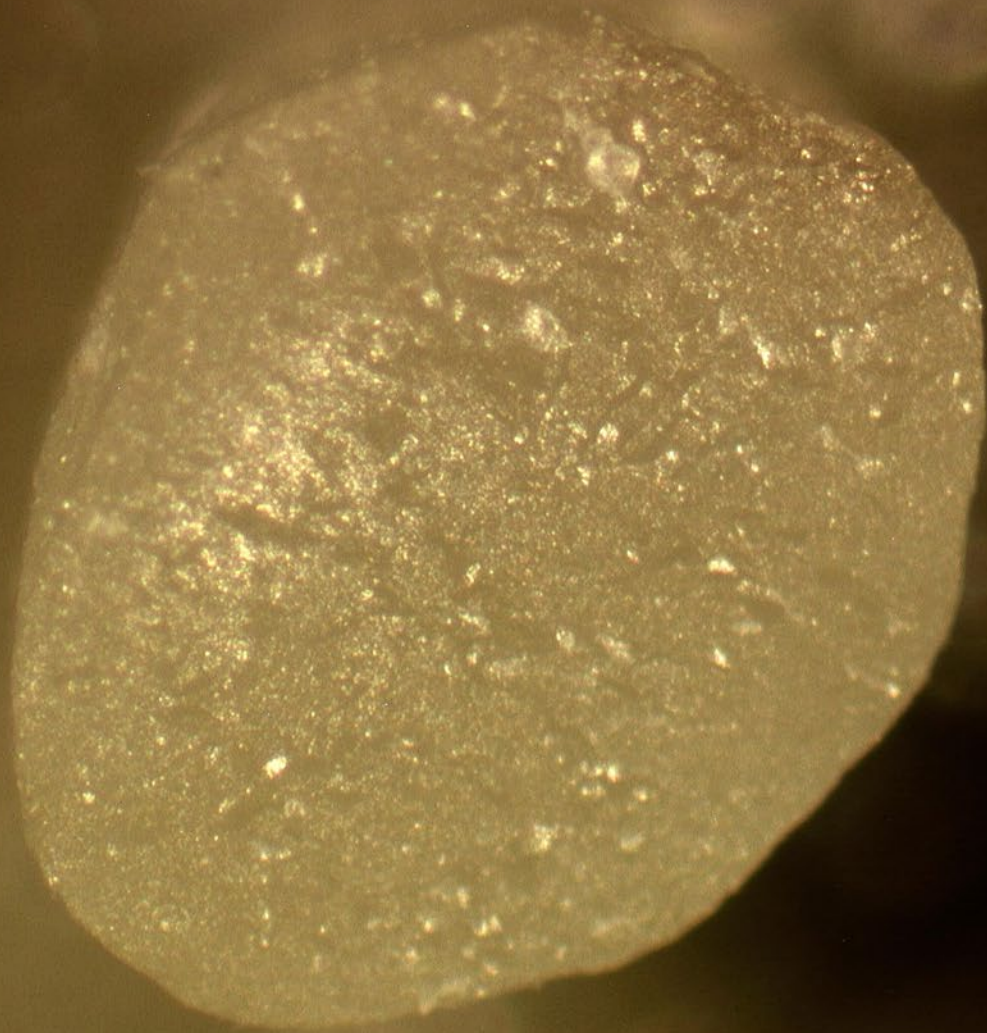
# Chalkiness

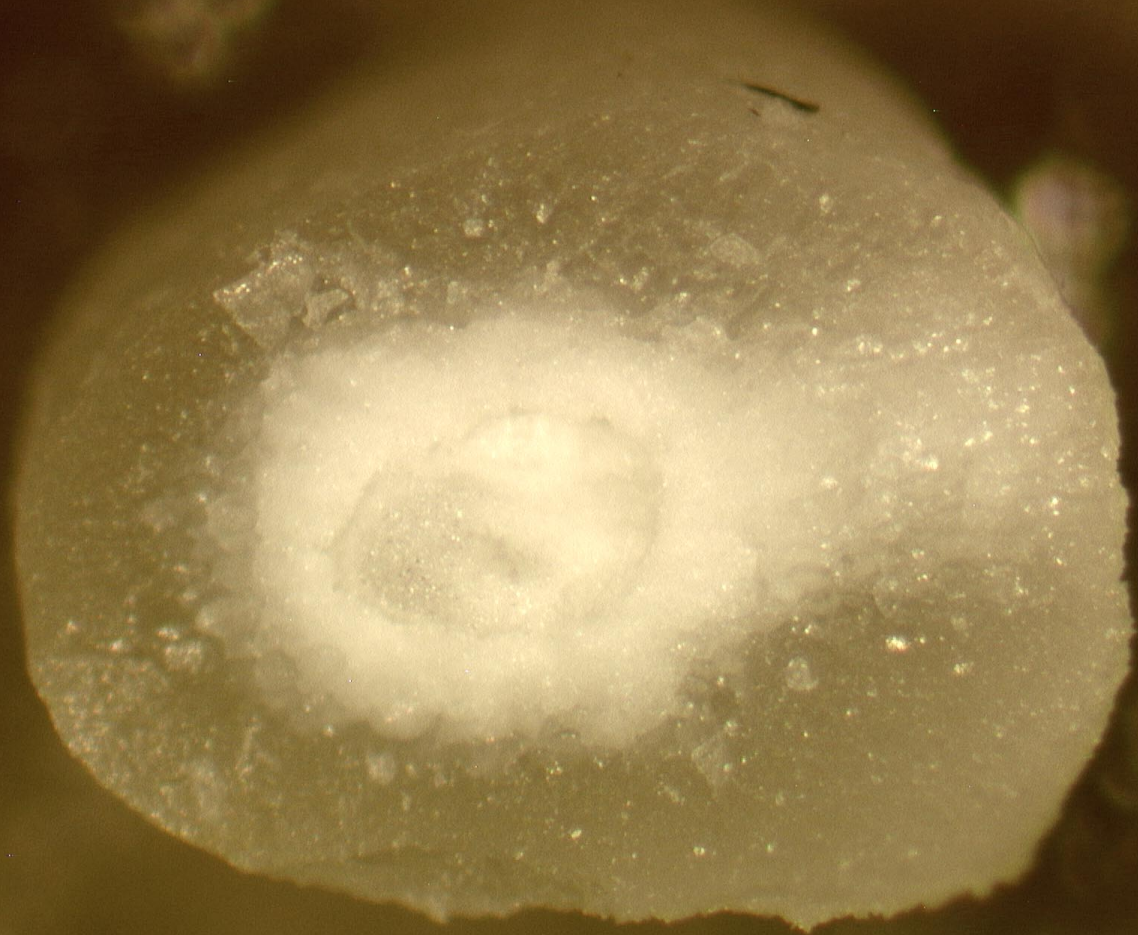
## Yeso

- **Endosperm opacity or white belly** (Opacidad del endospermo o panza blanca)
- **Opaqueness has an overall chalky texture caused by interruption of final filling of the grain** (La opacidad tiene una textura general yesosa causada por la interrupción del llenado final del grano)
- **Loosely packed starch cells** (Células de almidón no apretadas)









# Grain Dimensions

## Dimensiones del grano

- **Length** (Longitud)
- **Width** (Anchura)
- **Thickness** (Grosor)
- **Length/Width Ratio** (Relación entre longitud y anchura)

**Whiteness**

**Blancura**



**CYPRESS**



**CHENIERE**





**CYPRESS**



**CL 111**



**CYPRESS**



**CL 151**

**Rice Breeders Have  
Always Bred For  
High Quality**

**Los criadores de  
arroz siempre han  
buscado una alta  
calidad**





CLEAN-UP  
THE LAB  
BEFORE  
LEAVING

1/10/10 - 10  
1/11/10 - 10  
1/12/10 - 10  
1/13/10 - 10  
1/14/10 - 10  
1/15/10 - 10  
1/16/10 - 10  
1/17/10 - 10  
1/18/10 - 10  
1/19/10 - 10  
1/20/10 - 10  
1/21/10 - 10  
1/22/10 - 10  
1/23/10 - 10  
1/24/10 - 10  
1/25/10 - 10  
1/26/10 - 10  
1/27/10 - 10  
1/28/10 - 10  
1/29/10 - 10  
1/30/10 - 10  
1/31/10 - 10

Man in a green and white striped polo shirt, blue jeans, and a tan baseball cap is operating a white Accaria mill. He is standing at a blue-topped workbench. A white dust bag is suspended from the ceiling by orange cables and is positioned over the mill's hopper. The mill has the brand name 'ACCARIA' printed on its side. In the foreground, a white wooden table holds a large cardboard box labeled 'MILLING LAB.' and 'BAXTER'. The box is filled with numerous yellow packets. To the left, a brown leather stool with a white cloth draped over its back is visible. The room has wood-paneled walls and a drop ceiling with a fluorescent light fixture. A white bucket with the number '11' is on the floor near the table. A green box of 'COMPOSTABLE' paper is also visible under the table.

MILLING LAB.  
BAXTER

ACCARIA

MILLING LAB.

PATH

11

COMPOSTABLE

**Questions?**

**¿Preguntas?**