

What is Moisture Content?

Moisture content (MC) is the weight of water contained in paddy or rice expressed in percent. MC is usually referred to the wet basis meaning the total weight of the grain including the water (MC_{wb}). For research moisture content referred to the dry matter of the grain is sometimes used (MC_{db}).

Why is measuring moisture content important

Accurate moisture content testing is important in managing and marketing paddy and rice. Inaccurate tests lead to:

- * Extra drying cost and harvesting loss if paddy is harvested wetter than necessary
- * Spoilage if the grain is too wet in storage
- * Extra drying cost and loss of quality if paddy is dried too far
- * Lower head rice when milled at wrong MC
- * Weight loss (loss in profit) if grain is sold too dry

How to measure the moisture content

Oven Method

Use a temperature controlled oven. Make sure that the temperature is not higher than specified because otherwise chemical changes occur within the grain which can cause additional weight loss:

- * Set the oven at 130 °C.
- * Weigh three paddy samples and place the samples inside the oven.
- * Measure the final weight of the samples after 16 hours.
- * Compute for the moisture content wet basis (MC_{wb}) using the equation (1):
- * Compute the average MC.



Calculations

$$MC_{wb} = \frac{m_i - m_f}{m_i} * 100 \quad (1)$$

$$MC_{db} = \frac{m_i - m_f}{m_f} * 100 \quad (2)$$

MC_{wb}	=	Moisture content wet basis	[%]
MC_{db}	=	Moisture content dry basis	[%]
m_i	=	Initial weight	[g]
m_f	=	Final weight	[g]



The IRRI Moisture Meter was developed to get a quick assessment of the moisture content anytime, anywhere.

The optimum grain MC depends on the desired storage duration.

MC (%)	Purpose
<9	Storage for more than 1 year
9-13	8-12 month storage
14	to attain optimum milling
14	not safe for storage