



Moisture and Water Activity

What are moisture and water activity?

Water in chillies occurs in two ways:

- 1 Water bound to the structure of chillies (proteins, salt, sugars).
- 2 Free or unbound water that is available for microbial growth.

Chilli moisture values are the total amount of both bound and free water. Excessive moisture in chillies leads to mould growth and excessive drying will cause the chillies to become brittle. Water activity is a measure of unbound water available for microbial growth and is the more significant of the two values as it is an indicator of chilli quality and safety. Water activity is given the symbol (a_w) and values range from 0 (bone dry) to 1.0 (pure water). The moisture content of chillies varies with structure and processing. Sun drying and mechanical air drying are the most common methods used for reducing moisture.



How does the Chilli Doctor Technical Team Manage Moisture/Water Activity Risk?

- ✓ Knowledge of the supply chain.
- ✓ Knowledge of the typical moisture and water activity levels of each variety of dried chilli.
- ✓ Ability to test water activity in house using equipment manufactured under ISO 9001:2015EM ISO/IEC 17050:2010 (CE Mark)
- ✓ Undertaking a thorough assessment of suppliers to ensure that they can provide safe products of the desired quality before they can be approved.
- ✓ Assessing the level of supplier knowledge about moisture and water activity control.