



# Reducing water content in food

**K**

Know

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## What do you need to know?

- If you are drying or concentrating your food to make it safe, there are water activity rules you need to meet.
- Water activity relates to the amount of water that is available, to support the growth of bugs, in your food. It is not the same as the overall moisture content of a food as some moisture in food is not available for bugs to use for growth.
- Lowering the water activity to less than 0.85 can prevent bugs from growing.
- **Concentration** lowers the water activity in your food by using evaporation, reverse osmosis, ultrafiltration or freeze concentration.
- **Drying** lowers the water activity and moisture content in your food using evaporation. Many dried foods are concentrated before being dried.

## Why is controlling water activity important?

- Harmful bugs need water to grow. Lowering the water activity removes the water bugs need to grow.
- Lowering water activity alone doesn't always kill harmful bugs. Lowering the moisture content of food often also has the effect of raising the salt or sugar concentration in foods – which can kill many bugs.



# K

## Know

- It's important that the method you use for concentration or drying results in water being removed evenly from the food. If there are some spots with a higher water activity, bugs can still grow in these parts and cause the food to become unsafe or unsuitable.
- Once the water activity of your food is below 0.85, it is important to protect it from absorbing water from the air, or other foods during its shelf-life. This can be done by:
  - using packaging that prevents moisture absorption, or
  - storing the food in a humidity controlled environment.
- If the water activity increases again, any bugs that are still alive can start growing again, and cause the food to become unsafe or unsuitable.

# D

## Do

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### What do you need to do?

- Identify the foods that need to be dried or concentrated.
- Only use methods you use for concentrating or drying foods that give an even result, or ensure that no part of the food has moisture content more than 0.85.
- The water activity for each batch of food must be below 0.85.



# D

## Do

- Use one of these methods to test the water activity of your food:
  - use a calibrated water activity meter, or
  - send samples to an accredited lab, or
  - prove that if you follow a consistent method that the water activity can be relied on to be below 0.85 (this option is recommended only when the target water activity is below 0.80).
- Package or store concentrated or dried foods in ways that prevent the food from absorbing water from the air, environment or other foods.

# S

## Show

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### What do you need to show?

- Show your verifier:
  - your method for concentration or drying,
  - how you know the water activity is below 0.85 for each batch of food,
  - how you know the water activity in the food is even, and that no part of the food exceeds 0.85,
  - how you make sure the finished food is prevented from absorbing water.