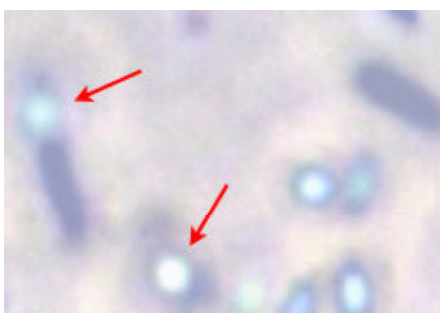


# Safe handling of cooked rice

Much of food safety is common sense. Everyone knows that chicken should be cooked thoroughly, raw and cooked foods should be kept apart and perishable foods should be kept cool. But did you know that cooked rice can cause food poisoning if it is not handled correctly?

The reason for this is that rice is often contaminated with a food poisoning bacterium called **Bacillus cereus**. It is an organism which, unlike some of the more well-known bacteria such as Salmonella, Campylobacter and E. coli, can survive adverse conditions by forming spores. The spores themselves are not harmful if consumed, but if they are given the opportunity to revert to 'normal bacteria', that is where the problems start.

Whilst the rice is dry, the spores remain dormant and can survive for very long periods of time. As you obviously cannot tell by



*bacillus cereus spores*

looking at it, it is safest to assume that any rice that you use at home or in your business is contaminated. When the rice is cooked in boiling water, the spores are able to survive temperatures which would easily kill other bacteria. Once cooking is complete, if the rice is allowed to

cool slowly and/or is stored at room temperature, the spores revert to bacteria which grow and multiply in the cooked rice. As they do so, the Bacillus cereus bacteria form a



*bacillus cereus bacteria*

toxin in the rice. The toxin is simply a by-product of the growth of the organism, which happens to be poisonous to humans. Unfortunately, the toxin is also resistant to high temperatures, so even if the rice is reheated, the toxin remains. It is the consumption of cooked rice containing the toxin which causes Bacillus cereus food poisoning.

So, the top tips for safe handling of cooked rice are:

- Avoid cooking bulk quantities of rice where possible. The larger the batch, the longer it will take to cool.
- Aim to cook only what will be consumed on that day. Left over rice should be disposed of.
- The safest way is to serve rice immediately after cooking, but if this isn't possible, either...
- Keep the rice hot, above 63°C, for example in a rice cooker, or
- Cool the rice quickly and store it below 5°C. The cooling process

can be speeded up by placing the rice in shallow trays, rinsing with cold water or dividing the batch into smaller portions. You should always aim to reduce the temperature to less than 5°C within 90 minutes of finishing cooking.

- Reheat rice only once, and ensure it reaches a temperature of at least 75°C.
- Remember that even frying cooked rice will not remove any toxin that has formed, so boiled rice for frying should be treated as described above.



And finally...

...rice is not the only food that can contain spores. Other cereals, vegetables and even meat may be contaminated with spore-forming bacteria, so the basic rules of 'keep it hot, keep it cold or don't keep it at all' are good advice for all foodstuffs.

**This advice is available in Chinese and Bengali language versions. For a copy call Environmental Services on 01473 825890 or email [foodwise@babbergh.gov.uk](mailto:foodwise@babbergh.gov.uk).**