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Misura 16 Cooperazione – Sottomisura 16.2 “Sostegno a progetti pilota e allo sviluppo di nuovi prodotti, pratiche, processi e tecnologie”



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## PEANUT POST-HARVEST

The **post-harvest storage of peanuts** is a critical process to maintain product quality and safety, preventing spoilage and contamination by molds and mycotoxins, such as aflatoxins. Careful management of storage conditions is essential to preserve the nutritional value of peanuts and ensure they are safe for consumption.

### Drying

Immediately after harvest, peanuts need to be dried to reduce residual moisture, typically to a level below 10%. High moisture levels promote the growth of fungi, including *Aspergillus flavus* and *Aspergillus parasiticus*, which produce aflatoxins hazardous to human health. Drying can be performed in the sun, in drying facilities, or by mechanical methods in controlled environments.

### Cleaning and Sorting

After drying, peanuts are cleaned to remove soil residues, dust, and other impurities. They are then sorted to eliminate damaged or compromised pods that might contain mold. Sorting can be done manually or mechanically, and in some cases, optical detectors are used to identify and remove contaminated pods.

### Storage in Controlled Conditions

Peanuts should be stored in cool, dry, and well-ventilated environments to avoid moisture buildup and limit fungal growth. Ideal storage conditions involve a temperature below 20 °C and relative humidity between 65% and 70%. Storage warehouses must be clean, dry, and protected from potential insect or rodent infestations, which can damage the product and introduce additional contaminants.



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### **Mycotoxin Control**

During storage, it is crucial to regularly monitor the presence of mycotoxins, particularly aflatoxins, through periodic testing. If aflatoxins exceed allowable limits, the peanuts are considered unfit for human consumption. In some cases, decontamination techniques such as removing contaminated pods or treating with specific solutions may be used, but must always comply with food safety regulations.

### **Packaging**

After sorting and quality control, peanuts are packaged to extend shelf life and protect them during transport and distribution. Packaging can involve jute sacks for large quantities or vacuum-sealed packaging for peanuts intended for direct consumption. Vacuum or modified atmosphere packaging is especially effective in preventing lipid oxidation in peanuts, preserving their sensory qualities.

### **Transport and Distribution**

During transport, peanuts must be protected from adverse environmental conditions, such as high humidity and excessive temperatures. Transport should ideally be conducted in insulated containers to maintain stable temperature and humidity levels. Attention to transport conditions is particularly important for peanuts destined for distant markets or export.