Comminution of nuts

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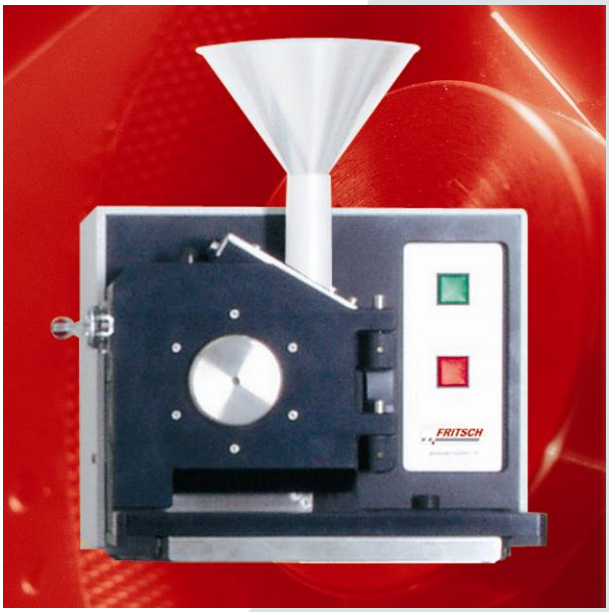

For the comminution of nuts, at the present mostly household appliances are used in laboratories. Peanuts with shell wear heavily on these. When processing almonds, hazelnuts and walnuts, this technology fails.

A solution has to be found, which allows laboratories to do the following job:

- peanuts, walnuts, hazelnuts, Brazil nuts or even almonds
- in a justifiable amount of time are ground so fine, that a homogenous sample evolves
- the contamination with other samples excludes
- and the cleaning of the instrument in an acceptable amount of time is possible
- so that the desired analysis can be carried out.

The FRITSCH Company, Manufacturers of Laboratory Instruments for Milling and Sizing based in Idar-Oberstein, Germany, offers various cutting mills. For these tasks we especially recommend the Universal Cutting Mill PULVERISETTE 19.

The comminution of nuts with their shell depends - besides a good comminution result - also on the cleaning in a respectable amount of time, which is guaranteed with the PULVERISETTE 19.

The comminution of peanuts is probably the simplest and most unproblematic task. More difficult is the processing of walnuts. As always besides the result, the amount of time needed for the comminution plays an important part. In order to test this, 1 kg of walnuts were processed.

1 kg walnuts

Feeding of the walnuts

The result: 1 kg walnuts after 2 minutes grinding with the PULVERISETTE 19, equipped with a 4 mm sieve insert

A glance into the mill after grinding

The standard funnel for long and bulk material was chosen carefully. For one, this funnel is easy to clean, for the other, the mill should have the opportunity by adding the nuts slowly, to comminute the material and release it from the grinding chamber. Otherwise, if there is too much material in the grinding chamber, the possibility that the material is warmed and more oil separates, increases. A 4mm sieve cassette was used. In less than two minutes all nuts were processed. For a sample of 10 kg, 15 to 20 minutes have to be assumed. Also a communition of small quantities with a 2 mm sieve cassette is possible.

An ensuing glance into the opened cutting mill shows that the walnuts are very easily processed. The sieve was free. Additional material could have been processed. The rotor was removed from the rotor shaft without tools and placed in front of the sieve. The sieve cassette can also be removed without tools. Therefore all parts to be cleaned are very easily accessible.

Also almonds and hazelnuts with their shell are superbly processed.

Not only nuts in different variations can be ground with the Cutting Mill PULVERISETTE 19. The Mill is also suitable for grinding large amounts of grains, spices and coffee. This is illustrated in the opposite photo, where the grinding result of wheat is shown.

For the preparation of smaller sample amounts (< 100ml) of these materials, the Variable Speed Rotor Mill PULVERISETTE 14 is also very suitable.

A convincing result: comminution of wheat down to 1 mm with the Cutting Mill PULVERISETTE 19

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