

Utilization of Peeling "Waste"

Utilization of Peeling "Waste" **from Mechanically Working Dry Peeling Machines,** **Especially of Potato Peeling "Waste"**

It was our company who developed and marketed the first carborundum peeling machines and the first blade peeling machines which can be operated without water/waste water:

- **Carborundum peeling** = Abrasion peeling by means of more or less rough/fine carborundum granulation
- **Blade peeling** = Peeling is carried out actually by means of blades (not by means of punched sheet metal) arranged on discs or similar utensils

As far as the peeling of potatoes is concerned, the peeling "waste" coming from carborundum peeling machines consists of a floatable and pumpable pulp, while the waste from blade peeling machines consists of small potato slices which are not floatable but pumpable in any case.

Peeling waste produced, for example, when peeling carrots, beetroot, onions, shows partly somewhat different properties not to be discussed here.

The composition of the "waste substances" from mechanically working dry peeling machines corresponds to that of the peeled tubers or roots themselves.

Let us treat here that "waste" which is produced while peeling potatoes.

What efforts have hitherto been made in this respect in Western Europe and what has been practised here, to some extent, even over longer periods of time?

1. There were attempts to dry the peeling waste in order to make it suitable for storage. However, the energy costs in Western Europe were too high and the quantity of skin waste proved to be too small - even in larger food producing factories - so that a profitable and economically rewarding production could not be achieved.
2. In some places the peeling waste is siloed and used for fodder.

3. An interesting example: the peeling waste from a carborundum peeling machine is pumped into a large silo. Tank lorries from specialized firms suck off the pulp and transport it to large fattening centres (e. g. for beef cattle). Here, the potato mash for pigs is heat-treated. This is often done in a steam-heated spiral blancher. The cattle can digest the mash uncooked.

The utilization of all kinds of "waste stuff", including the above described, for feeding has to be carried out on a scientific base. As a rule, additions of other types of fodder are required.

4. A potato chip (GB: crisps) producer in Northern Germany added enzymes to the peeling pulp, thus preparing it for pigs.
5. A potato peeling factory in the Ruhr District (= mining and industrial centre in Germany) took the peeling pulp to a farm nearby. Here, the potato mash was mixed with maize silage and given to the cattle.
6. Most of the potato peeling factories take the peeling waste to farmers who use the skins for fodder. In many cases the farmers themselves come to pick up the skins.
7. It does not occur frequently that the skins are dumped on fields. - Here - as everywhere - local laws and regulations have to be observed.
8. The alcohol production, from the "waste", is not worth while in Germany. Government licences are required. The low-quality potatoes normally used for the alcohol production are not very expensive.
9. Frequently it is suggested to make the "waste" dryer by pressing or centrifuging in order to sell it afterwards. This is done, for example, in bigger potato processing plants. As far as the assessment of this procedure is concerned, it must not be overseen that the fruit water, which is considerably enriched with various substances, has to be removed afterwards. In some cases it is collected in artificial ponds (lined, for instance, with plastic foils) and sprinkled later on fields.
10. There are further applications, for example the bio-gas production.

The above comments are not binding for us. They are not complete and have not been checked as to their economic efficiency. In other countries or regions there might be different conditions that permit different opinions. - The laws of the country and the directions and orders of the authorities have to be observed!

A list of interesting articles and essays regarding the topics of the preparation and processing of tubers and vegetables and associated specialist areas can be found at our Internet site at www.dornow.de, Treatises.

**Review of your current peeling results or
before the purchase of a peeling machine or system:**

**Realistic test peelings with the most diverse peeling systems,
with the most diverse tubers and root vegetables, some fruit, with your raw
produce are possible in our Peeling Test Center!**

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