

THIS ARTICLE IS PART OF THE SERIES – We bring light in the dark of „black powders“

Part 2/5: The extraction of the raw materials and their differences

In the next five contributions, we will explain the differences between humic substances, charcoal and clay minerals, which are often equated by their appearance. Part 1 has already described the different processes involved in the formation of these substances. In the second part we now consider the extraction and processing of these substances.

Humic substances

Humic substances consist of several fractions, which include not only humic acids but also fulvic acids. With the help of different separation mechanisms, the fractions can be separated and processed.

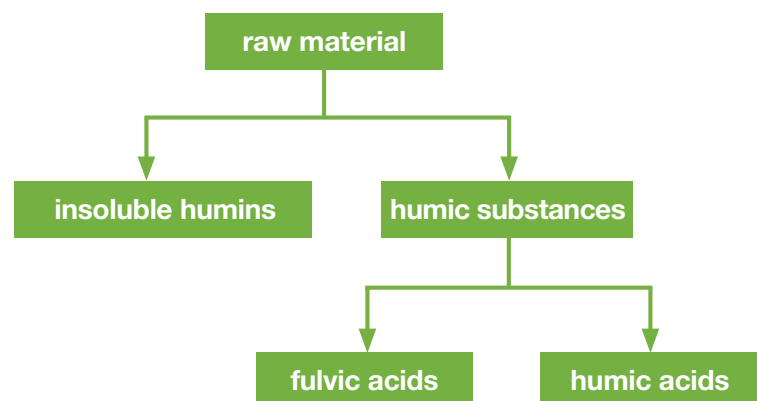


Figure 1: The raw material and its fractions



Source: National Institute for Geosciences and Natural Resources

Clay minerals

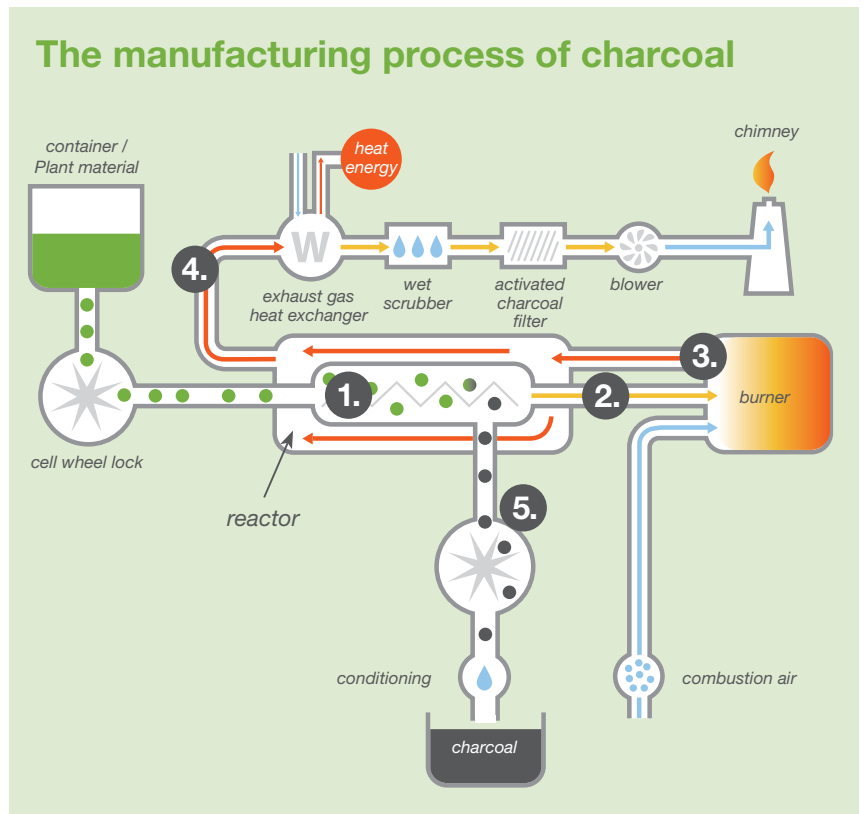
Clay minerals are mined in certain deposits. For the use in animal nutrition, the raw material is mechanically processed and thus brought into a suitable form.

Picture 1: Mining of clay minerals in Kaolin Mine Burbach-Niederdresselndorf, Theodor Stephan KG

Charcoal

There are various manufacturing processes in which the material is heated to 600 - 800° C and charred, depending on the plant. The charcoal remains as solid, is extinguished with water and then pulverized. An exemplary manufacturing process is shown on the right.

1. Plant material is moved by screw conveyors. Temperature: 800° C.
2. Outgassing gases are burned in the burner.
3. Exhaust gas is extracted and heats the charring process.
4. Exhaust gas is refined and burned in the chimney.
5. Charred plant materials are discharged from the process.



Our product WH67®

After quality control, humic substances are physically treated and purified in the first step in order to further increase the quality of the humic acids. These steps are followed by a patented production process, which end in the product WH67®.

Picture 2: Production plant

Conclusion

It becomes clear that the production processes of humic substances, clay minerals and charcoals are fundamentally different. For the production of WH67®, in addition to the targeted selection of humic substances, multi-stage processing and the patented production process are of crucial importance.



**NATURALLY
HEALTHY
ANIMALS**