

A phenomenological description of the biological development in grass-ceramics projects

The starting point

The white clay with wheat grain is thrown on a wheel into various bowls. These wet bowls are placed in glass cubes. Thus, most of the moisture from the clay is kept in a sort of greenhouse - which, like ordinary greenhouses, is not tightly closed. There is room for interaction with the surroundings which is revealed in the process.

Biological growth starts with the plants

The moisture in the white clay kicks off the germination of the wheat grains. The plants grow fast. This process is visible as the white roots cannot get into the thin layer of clay-soil and they then create a "woollen blanket" of roots on the ceramics. The green plants take oxygen from the air and release the carbon dioxide from the photosynthesis through respiration. The product from the photosynthesis is rich in energy (starch, glucose and sucrose). Simultaneously, pearls of dew appear on the plants and condensation on the inside of the cubes. This transfer of moist from the clay and the plants plus the production of carbohydrates are the powers of the following development.

The in-between stage - a little of everything

The moisture and the carbohydrates on the moist clay surface provide a breeding ground for bacteria and algae. Which bacteria will grow on which bowls depends on the airborne spores. Out of their growth comes a thin, slimy layer which will again host other bacteria and molds. The dominating colours will be gray and red colonies of bacteria and the green single cell algae which we recognize from ponds in nature.

The last stage - the plants are dying and degrading

In the last stages the plants die from a lack of nutrition, and molds and algae take over. Characteric of this stage is also the tiny flies in and out of the gaps in the cubes. These small black 'flies' are actually dark-winged fungus gnats (sciaridae) which arrive when the plants and the algae and molds are dying. The dark-winged fungus gnats lay their eggs in the moist corners with rotting plants and algae because the larvae feed on dead material. Among the now rotten plants small, grey filigree molds grow whereas the black mold will grow on the clay.

Variations in the process and innate coincidences

Different ceramic shapes will cause variations in growth. E.g, on vertical sides some fungi will thrive, while others grow in the moist bowls. Coincidence also decides when, where and which of the airborne spores land on the culture medium. Variations in light might change or accelerate the processes in the cubes, especially concerning the growth and respiration of the plants.

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