GROWLAY NEW! June 2018

overview: June / 2018

NEW

GROWLAY Filament
print 3D objects and let biological cultures grow

1. grass; moss
2. fungus ; mildew
3. lichen
4. mycelium
5. pharma-cultures, mother cells

GROWLAY works like a breeding ground. Add seeds or spores to them and they will grow.

GROWLAY properties:

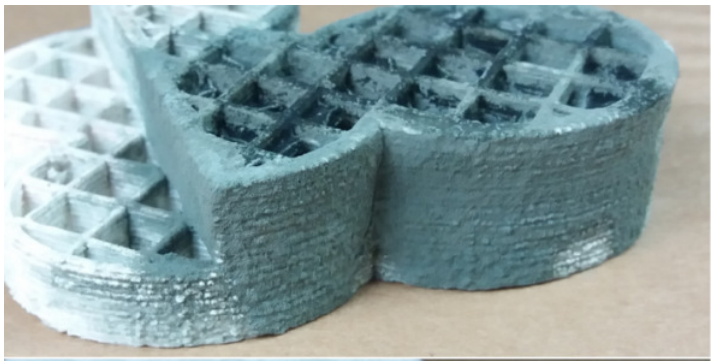
- GROWLAY is microcapillary. Its cavities absorb and store water, dissolved liquid nutrients or fertilizer. Promoted because of the capillary action throughout the printed object.
- Mold grows through the open-cell capillaries and forms a mycelium.
- Seeds of grasses can get caught and grow in Growlay.
- Spores find room to germinate in small cavities. (see SEM-Pics)
- Roots cling to the structures of the object filling.
- Even lichens grow on Growlay. These usually grow preferentially on stones of walls or trees.
- GROWLAY can be sterilized (for food use and research) with gases or wet (but not thermally)
- For color differentiation, objects printed with Growlay can be subsequently colored with food colors.
- absorptive carrier for agents

GROWLAY is available in the functionally different versions white and brown

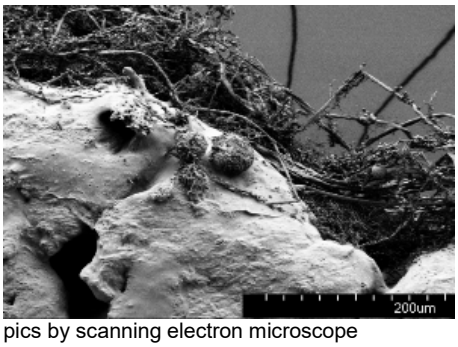
- Version white is an experimental filament & fully compostable
- The brown version contains not only pores but also built-in "food" in the form of cell material which is needed for growth

left: fresh printed GROWLAY**brown**
middle: cotton-like mold growth
right: slow-growing lichen

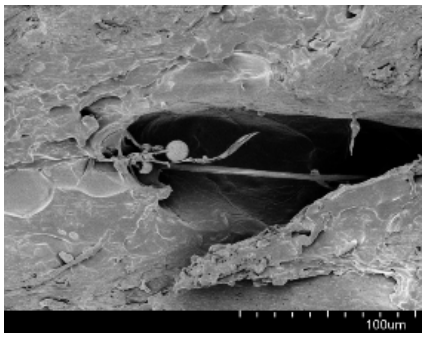
GROWLAY after some days with grass seed put on it



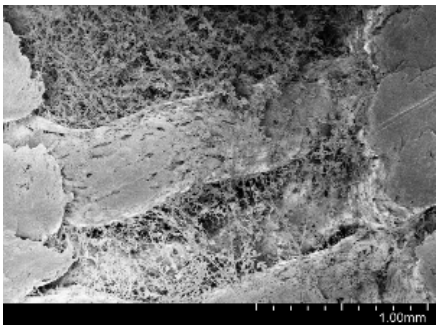
above: Gorgonzola chees (blue) grows on GROWLAY
below: white cheese



pics by scanning electron microscope
4) SEM, Lichen inside GROWLAY (Flechte)



5) SEM, Lichen inside GROWLAY



6) SEM, white Cheese inside GROWLAY

GROWLAY - two versions

GROWLAY-white pure porous

- ***compostable*** polymer
- with open capillaries
- white filament
- experimental filament for experienced users

GROWLAY-brown porous +woodparticles

- ***not compostable***
- with open capillaries

+ polymer contains ***organic nutrients*** (wood particles)

- ***higher*** tensile strenght
- ***more rigid*** as version –white- ;
- increased temperature stability

the filament can be printed just as easily as Laywood, brown filament // for any user