

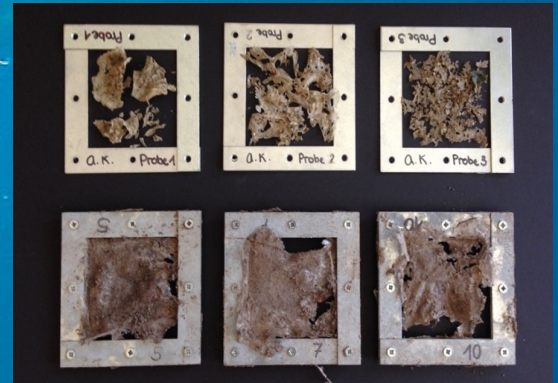
ALGAE-BASED BIOPLASTICS

- How to produce plastic from algae

By Anna Lena Klein – representing Switzerland

I deeply care about the environment and therefore try to protect it in any way possible. This is why the project serves as a contribution towards combating the serious environmental issue of [marine plastic pollution](#). This project examines and further develops a new approach to making [biodegradable plastics](#) using alginates (algae starch) as the raw material.

The aim of the practical part of my project was to self-produce a completely biodegradable plastic film and then test its degradability in two different environments (The Mediterranean Sea and the forest floor).



Advantages of Self-Produced Film

- It is totally biodegradable.
- no misuse of foodstuff production
- no fertilizer or pesticide treatment of the starch source (algae) is necessary

Disadvantages of Self-Produced Film

- the air pockets in the self-made film would have to be eliminated
- the film's hydrophilicity is problematic in certain applications
- the cost of the self-made film is currently too high

Potential Applications of Self-Produced Film

An algae starch-based film could be used in applications similar to those of starch blends, such as in [horticulture](#) (e.g. plant pots), [packaging](#) (e.g. yogurt containers and drinking cups) or [hygienic products](#) (e.g. diapers)