



INTERVIEW WITH MRS ROURE - 05/17/2017

POSITION: Economist and chair of the Committee "Safety, Security and Risks".

The goal of this interview was to understand the main economics aspect concerning biotechnology in France and in Europe. We discussed about softer shock and she help us to understand all the aspect concerning our project.

Projects:

Necessary to show in advance that all problems in our project have been studied as a precaution.

Include a paragraph on the SAFETY part as well as the persons working on it within the team.

Show a "community" part that emphasizes the relation with communities.

Talk about the triple crown:

- Physical (ways to fix, kill, or stimulate bacterial growth)
- Chemical (toxicological and ecotoxicological ways)
- Biological (metabolic ways)

It will be important to contact a pharmacist to obtain an expertise and toxicological advice regarding our project with our bacteria (on the soil + human (microbiota)).

We need a toxicological and ecotoxicological proof of concept.

Ecotoxicological studies: to see if the bacteria influences soils and thus has an impact on one species' selection rather than another.

Toxicological studies: to see if the bacteria influences the plant.

It is important to always think of the maximum of benefits compared to the minimum of regrets (non voluntary effect / dissemination).

Mini-max-regrets = when choosing the bacteria all questions have been asked and answered to have a minimum of regret and still have a maximum of benefits.

Uninsurable risk = 0 risk-capital.

Scale of our product: Small scale agriculture, respectful of soils. The idea is to enrich the soils to increase the yields. Read the article page 94 of the book Réalités industrielles: "les microorganismes du sol: des outils biologiques pour satisfaire les objectifs du développement durable (ODD)".



Sustainable engineering of soils: either bacteria are destroyed, or sustainable bacteria stay in soils to enrich them. It would limit the consumables' prices for farmers, unlike Monsanto did.

Pilot confining farm: when our bacteria is produced, tests would need to be conducted in fully confined greenhouses. After the toxicological and ecotoxicological tests we'll see whether we take them into consideration to modify the bacteria, or completely stop if it's not doable, or stop confinement for an open air culture.

New idea: new soil to absorb CO₂. Mix wood coal to the soil so that more CO₂ is pumped. Synergy of our bacteria with another microorganism => to increase carbon sequestration. Work on soil knowledge → weather forecast / phytochemical composition of soils. Notion of cyber/big Data. See data banks on soil, and see whether it's possible to predict our bacteria for a given soil, in order to demonstrate we will indeed need our bacteria in the future.

Killswitch aspect: Physical aspect: Acoustic response to destroy remotely our bacteria, or stimulates its growth.

Electromagnetic channels (see our bacteria frequency): either fix it or kill it?

Ion channels → porosity.