# Bacchus

Start with ourselves and our passion for food

We all know food security is a big issue. The world population is growing fast – the UN expects the world population to be 9 billion in 2050 - and people in lots of countries are becoming richer. This changes their diets. For example, producing a kg of beef requires on average 5n times as much water as producing a kg of eggs. Chinese people right now are more and more substituting egg protein for meat proteins. You can imagine the pressure this puts on the scarce water resources China has.

http://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf

http://en.wikipedia.org/wiki/Environmental\_impact\_of\_meat\_production

However, we belief the earth can provide us with all what we need if we, humans, use innovative ways to source our food.

That’s where our name Bacchus becomes important. Bacchus is the Roman God of wine and plenty ness, agriculture and the fertility of nature. We chose a Roman god, and not the Greek god Dyonisos, as the Greeks were the artists of ancient times, but the Romans were the engineers!

Our goal is to provide the world with a plentyness of food, delicious food. Just as the plentyness and the delicious wine Bacchus stands for. And as engineers, we want to combine human innovation in agriculture with the use of the fertility of nature to make this happen.

This is our future goal, our long term mission. To realize this, we have to start with one project. We did some research about emerging food trends that can provide us with more food, better food and this in a sustainable way. Among others, we found….

The UN released a report last may urging us to eat more insects to fight world hunger

Insects --- WHY?

Healthy : protein rich, low fat

Ecological : water and land use

1 kg beef needs 25 kg feed, while 1 kg insects only need 2 kg of feed

Ecological : you can feed them with food waste or animal waste

Tasty : in Mexico, some insects are caught and seen as a delicassy

Insects – WHAT? Markets today,

western world hesitating, however 2 billion people eat it.

For the non believers : 30 years ago, nobody in the west wanted to eat sushi

In congo most important source of animal protein, so it is possible

The average household in Kinshasa eats 300g of caterpillars a week

In asia, insects are eaten by lots of people in a large variety

Mostly caught, sometimes processed, looking into this can help us

In mexico, biggest variety, … also waiting for legislation, they catch them(seasonal)

Europe/USA lots of startups, hip, health & ecological, but waiting for legislation

EU Novel Food regulation – limits trade in insects/number of species, also strict sanitation requirements in breeding insects : UNCERTAINTY

Another thing that restricts it is the way of farming/breeding/catching and afterwards processing those insects --- HOW?

1kg of cricket flour costs 30$ nowadays

In Mexico, catching, however, unstable and difficult to upscale (ecosystem)

In Europe/USA, breeding, but way to expensive

Why so expensive? Not automated, not optimized, the fields we IE are good in.

Also processing : very unlikely that everybody will start eating insects right away. However, an insect burger could become popular.

These last remarks are what you can call the HOW to question. How to spread insects as a good complement to a healthy diet. We will try to investigate the full supply chain of insect to food and document where optimization and automatization is needed. From that research, we hope to be able to invent a product, a machine, or a series of automated processes that can greatly reduce the cost and improve the method of using insects as a food resource. And that’s how we, Bacchus, will do our contribution to a world with plenty of delicious food for everyone.

Extra remarks :

We believe in an earth that can provide every one of us with plenty of food.

Bacchus is the Roman God of plentyness, agriculture and the fertility of nature.

Mexico has the most edible insects of all countries in the world

(for later : population growing fat, healthier (fat free) alternative for meat?)