



## Akos Koos

**head of department**

Bay Zoltan Nonprofit Ltd.

<http://www.bayzoltan.hu/en/home/>



### Bilateral Meetings

- Wednesday 12:00 - 14:00

#### Description

One of the main aims of the R&D activities is the development of algae-biomass based products for the agricultural sector: fertilisers, soil or plant conditioners, animal feed. We also examine the applicability of different materials, microbiology products in plant production at laboratory level and in hydroponic and soil cultures as well. The effects of these materials on germination, rooting, yield, viability and the resistance of the plants are also tested. The strains of bacteria used in microbial products are either selected from the collection of the Division for Biotechnology, or new strains are isolated from environmental samples (e.g. soil, plants). Our stock of microbes is dynamically growing as new strains showing encouraging results in laboratory tests concerning their potential successful application in plant production have constantly been added to the stock, as a result of our active microbe isolation and selection procedures. When selecting the strains, isolates which proved to support plant growth and development throughout the laboratory testing are preferred - those that can for example fix atmospheric nitrogen, mobilize phosphor and potassium, produce phytohormones (auxins, gibberellins etc.), increase the stress tolerance of the plant and in addition, those which have antagonistic effects on phytopathogenic bacteria and fungi, which is of particular importance. The classical microbiological procedures of studying and monitoring strains are complemented by various methods of molecular biology (PCR, qPCR, DGGE, metagenome sequencing).

#### Organization Type

Other,

Email

[akos.koos@bayzoltan.hu](mailto:akos.koos@bayzoltan.hu)

Country

Hungary

Areas of Activities

**Agriculture and Food**

Offer & Request

## **Bioeconomy and system thinking**

Bioeconomy includes all the sustainable, biomass-based economic processes which use renewable biological (agricultural, forestry, animal, microbial) resources as raw material for the production of food, feed, energy or fine chemical products and also all the actors of these processes. These processes ensure the transformation of agricultural and industrial biomass wastes and by-products into higher added value products, and thus are able to tackle interdependent societal challenges such as food security, scarcity of natural resources, dependence upon fossil fuels and climate change in a comprehensive way, bearing in mind the sustainable economic growth.

The Biotechnology Division has a decade-long history of research and development activity targeting the utilisation of industrial, agricultural by-products and plant biomass (eg. whey utilization, bio-refining), therefore we complied with the 2012 EU innovation objectives concerning bioeconomy with ease. („Innovating for Sustainable Growth: A Bioeconomy for Europe”, 13.02.2012).

**Keywords:** bioeconomy business development rural mentoring value chain biomass feedstock product development food food security system thinking Horizon Europe

**Cooperation Offered**

1. Other

**Cooperation Requested**

1. Other

**Offer**

## **Fermentation technology development and research (algae, yeast and rhizobial bacteria)**

One of the main aims of the mentioned R&D activities is the development of algae-biomass based products for the agricultural sector: fertilisers, soil or plant conditioners animal feed. We also examine the applicability of different materials, microbiology products in plant production at laboratory level and in hydroponic and soil cultures as well. The effects of these materials on germination, rooting, yield, viability and the resistance of the plants are also tested.

**Keywords:** rhizosphere soil bacteria yeast feed agriculture biotechnology fermentation plant

**Cooperation Offered**

1. Outsourcing co-operation
2. Technical co-operation
3. Other

**Cooperation Requested**

1. Technical co-operation
2. Sales / Distribution
3. Other