

Concept Paper

Efficient Irrigation from Water supply to Smart Application

AGRITECHNICA ASIA 2020

Time and Date: 14:30-16:00 pm, October 14th, 2020; during AGRITECHNICA ASIA

Location: DLG Forum, BITEC, Bangkok

Concept:

The entrepreneurial risk of farmers is growing due to increasingly unpredictable weather conditions. Especially unstable water supply has an immediate effect on plant growth and thus on the economic success of production. In comparison to drought related insurance instruments, such as weather derivatives and harvest failure insurances, irrigation offers a cost effective instrument to secure the quality and quantity related risks of unsteady and insufficient water supply.

The technological design and implementation are versatile and can thereby be optimally adapted on the given conditions. Be it drip irrigation systems for fruit plantations, large scale pivot systems for arable crops or subsurface systems for horticultural production. Furthermore, most irrigation systems offer the foundation for the addition and precise dosing of fertilizers for optimal macro- and micronutrient supply. However, a sophisticated irrigation system is not only characterized by the irrigation technology itself, but also by its' measuring tools, control elements and management system.

Draft Program:

1. Water supply and water security in SEA

- a. Water bodies and their distribution
- b. Climate change and precipitation forecast
- c. From water reservoir to the field – channel and pipe line management on regional level

2. Assessing water demand

- a. Demand forecast by remote sensing (satellite technology, drones,...)
- b. Soil water content and its status (soil sensors, models,...)

3. Irrigation in the field

- a. Top down: sprinklers, rain guns, on soil drippers and drip lines
- b. Bottom up: subsoil irrigation systems

4. Using fertigation

- a. Options for using fertilizer in irrigation systems
- b. Nutrients and fertilizers for Fertigation