Reuse of wastewater for agriculture

There is a challenge is to optimize the use of wastewater for agricultural production by making use of the available water and nutrients, without causing risks to human health and/or the environment.

This module will provide student with the ability to analyse existing systems of direct and indirect use of wastewater in agriculture, from a food security, public health and environmental protection perspective (contribution to food production, microbial risk assessment for treated and (partially) treated wastewater use; apply basic calculations of pollution loads to surface and groundwater). They will be able to place these systems in the broader context of governance and questions of distributions of water and water-related risks as well as legal implications. In addition, students will learn to make a basic system layout for integrated systems of wastewater collection (various sources) – treatment (various technologies) – storage reservoirs – irrigation (various technologies)– production and use of biochar and compost as soil improving materials (crop yield increase, water retention increase).