

## Biodata en abstract of Tom Schut

### Bio:

Dr Antonius G.T. Schut is an assistant professor at the Plant Production Systems group of Wageningen University (WU). He graduated as spatial soil scientist at the WU, later followed by a PhD study on the use of imaging spectroscopy to quantify the quantity and quality of grass feed in the field. He worked on studies ranging from nutrient flows in Dutch dairy systems, combining remote sensing and modelling approaches for biomass assessments and grain yield forecasting, methods to determine refugia for plant species on granite outcrops to assessments of land degradation at the global scale. He worked on monitoring of crop growth in Mali using both unmanned airborne vehicles (drones) and satellite imagery. His current work at PPS focusses on a better understanding of variability on farm and within the landscape to optimise plant growth under local conditions, maximising resource use efficiency and improve yields. This includes tailored fertilizer recommendations combined with good agronomy in maize and cassava based smallholder farming systems of Africa. With his current PhD students he is focussing on the impact of unbalanced fertilization on maize yield in relation to field variability, the importance of differences in landscape position for fertilizer recommendations, yield potential of cassava and impact of water and nutrient limitations and better understanding relationships between bio-physical conditions and yields of cocoa.

### Talk:

The presentation will focus on yield gaps in sub-Saharan Africa, reflecting on expectations of food demand in relation to population and consumption growth. The principles of production ecology and definition of yield gaps and methods used will be shortly explained. Options to increase grain production on existing farmland will be discussed to feed the growing population in selected countries. Some examples are given for Cassava, highlighting the potential of local crops to feed the population. Further some attention will be given to farmer constraints affecting investments in soil fertility that can boost yield increases. The presentation will highlight the importance of a balanced nutrient supply and a more efficient use of inputs. The need to increase yield will be discussed in relation to the opportunities to expand the area under agricultural land use in various regions of SSA to feed a growing population. Some additional attention will be given to problem areas, highlighting the need for regional trade and production increase across the continent.