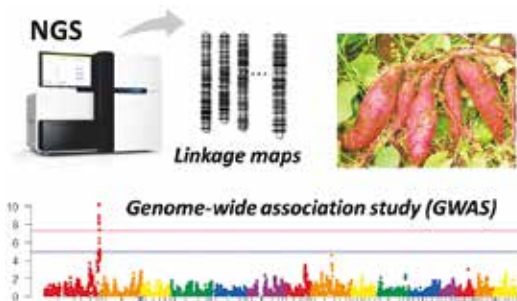




## Study on genetic and genomic analyses for plant breeding

We are engaged in genetic and breeding research by using next-generation sequencing technology (NGS) for various crop species. Our research has been mainly conducted on the hexaploid crop species called sweetpotato (*Ipomoea batatas* (L.) Lam.). Sweetpotato is one of the most important crop species in the world, and the annual production in the world exceeds 100 million tons (FAO). There is a need to develop high value-added varieties to which excellent traits such as pest resistance, yield and taste have been imparted. However, sweetpotato is genetically complicated, and its genetic analysis has been considered extremely difficult. In such a situation, our groups succeeded in genome-wide genetic analysis by using NGS in sweetpotato. We identified genetic regions related to agricultural traits such as disease and pest resistance by performing QTL analysis and GWAS (Genome-wide association study). Using these research results, we developed selective DNA markers useful for breeding.



Assoc. Prof.  
MONDEN Yuki

