

Frontier Plant Biotechnology

Classical Plant biotechnology + Next-generation Plant biotechnology
= Time for innovation

◎ Advantage of plants

- Rich in genetic resource
- Various useful metabolites
- Interesting functions
- Established biotechnologies
Breeding, Tissue culture, etc.



A mine of untouched resources

◎ Advances in the analytical methods

- Genomics
- Metabolomics
- Next-generation sequencing (NGS)
- Public Database



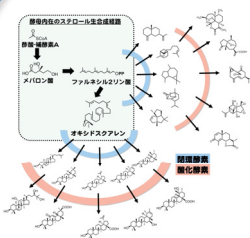
◎ Next-generation Plant biotechnology

- Improvement of plant transformation technologies
- Development of **New Plant Breeding Technology (NBT)**



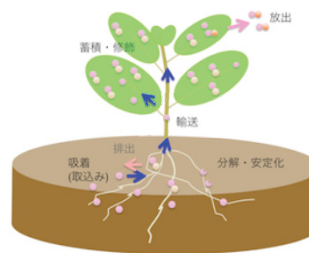
Understanding of plant functions
Elucidation of the biosynthetic pathway
for useful substances

- Production of useful phytochemicals
- Solution for environmental issues



Combinatorial Biosynthesis

Functional foods
Drug discovery



Phytoremediation

Stress-tolerant plants



Plant factory

Production of useful
phytochemicals by genome-
assist technology