

Editorial Overview

GMO research in Japan—the state of the art

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Last summer in Kyoto at the annual meeting of our Society, we all celebrated the birth of the *Blue Rose* thanks to the GMO research in Japan with close international collaboration of non-academic and academic institutions worldwide. The plan to publish this special issue on GMO Research in Japan was finalized at that meeting.

The editorial committee of the special issue intended to compile newest research on GMO in Japan. It has urged researchers from non-academic institutions such as private sectors and municipal experimental stations as well as those from academic ones to contribute this issue. The idea was to encourage those researchers who are internationally well known in their excellent scientific performance on GMO research, but sometimes they never publish their results for the reasons that we do not know.

We committee members also have focused on the research on “practical plants” rather than that on model plants such as *Arabidopsis* and tobacco. This certainly does not mean that we less evaluate the scientific importance of model plants and the research using them, but instead we wanted to give a glimpse of the state of the art on GMO using practical plants in Japan. How model plants are serving as a model to develop novel GMO for practical use as one of our major concerns.

This issue includes 16 Original Papers, two Short Communications and one Technical Review. Majority of the contributions are from non-academic institutions in Japan. The scientific area covered are as follows.

(i) Horticultural studies to improve characteristics of ornamental flowers such as biosynthesis of pigments and dwarfness.

(ii) Gene engineering crops, including rice, potato and sweet potato in relation to productivity, pest and insect, resistance to environmental stresses, quality control such as amylose and tryptophan content, and genetic dissection of the effect of ectopic high level expression of foreign gene on the morphology of rice,

(iii) Studies on materials production such as production of human interferon- α by transgenic rice and that of hybrid fiber by transgenic rice and *Tamarix* (a woody plant),

(iv) Transgenic phytoremediation materials such rice, *Rhaphiolepis umbellate*, a roadside tree and *Azadirachta excelsa*, a tropical tree.

(v) Safety assessment on reduced gene flow by pollen dispersal and impact of transgenic plants on the soil microbial community.

Most of the authors if not all of this special issue have been invited by the editorial committee, and every single paper has been critically peer reviewed so that the readers can easily follow the very exciting and stimulating experimental results, and share the ideas unfolded in it. Finally, on behalf of the committee I would like to express my hearty thanks to Dr. Hiroshi Sano, NAIST who has originally produced the plan of this issue, and also to Ms. Kuniko Yasumi for her kind and efficient assistance.