# THE PROSPECT OF PLANT BIOTECHNOLOGY FOR FOOD RESOURCES

The future of genetic manipulation under public disapproval

Taiji ADACHI

*Graduate School of Agricultural and Biological Sciences*
*Osaka Prefecture University*
*1- 1, Gakuen-Cho, Sakai, Osaka, 599-8531, JAPAN*

Many advances in plant biotechnology have been made in last decades. At the beginning, I would like to take a look on the previous development of plant biotechnology. The key technologies of plant biotechnology initiated both in naked cell fusions and in genetic transformations in '70s, for overcoming breeding barriers in different plant species. Somatic hybrids among sexually isolated species have been succeeded to be intact plants. After the discovery of vectors which transfer foreign gene(s), it was most exciting to improve crop plants through the practical application of genetic manipulation in '80s. And finally in '90s the problems of genetically modified organism (GMO) occurred. But does it really start to benefit mankind? The people are going back from GMO with fear and disgust. What went wrong? What is the future of genetic technology in the production of plant foods? Do we need these technologies to improve better our life in this planet or to even secure our survival? There is no need to repeat here all the arguments brought forward by the proponents and opponents of gene technology.

Food genetic technology may have to no future if the scientific community cannot convince the people of its benefits. We have to realize that the rejection of genetic food is fierce and growing. Plant genetic engineering should be a potentially earth-saving technology. Otherwise it will be more difficult to find solutions for an overcrowded and energy-hungry planet.

From the beginning of this new millennium, we are coming up to the promise and reestablish trust in our science and our integrity as scientists. I would like to introduce the world famous "Golden Rice Project" and a few examples which we are devoting ourselves to the researches on apomixis in guineagrass and on the allergenic proteins in buckwheat.

• NAME : Adachi Taiji

• SEX : Male

• E- MAIL : taijiada@plant.osakafu-u.ac.kr

• Age : 61

• ACADEMIC CAREER :
*Graduate School Kyoto Univsity, Japan(Ph.D.)

• PERSONAL POSITION :
*Present : Professor, Osaka Prefecture University.

• PRESENTATION TITLE :
THE PROSPECT OF PLANT BIOTECHNOLOGY FOR FOOD RESOURCES

• PUBLICITION :

1) Chloroplast DNA analysis in buckwhet species. Plant Sci 108: 173-179(1996)
2) Induction of betacyanin synthesis and pigment accumulation in cell suspension culture of Portulaca. Plantbiotechnology 17: 27-34(2000)
3) Analysis of RFLP in pepper using genomic and cDNA probes of Tomato. Applied Biol. Science(2000)
4) Characterization of ATP-Phosphoribosyl transferase regulating the histidine biosynthesis in higher plants. Plant Physiol 122: 907-14(2000)