

SEMINARS

Five seminars were organized in the year 2006 to 2007 with the participation of University faculty members, researchers and scientists from home and abroad. Summary of the different seminar papers are given below:

SEMINAR- I

USE OF APOMICTIC GENE FOR THE MULTIPLICATION OF HYBRID RICE ASEXUALLY

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Summary

Hybrid rice usually gives more yield than the line varieties. Sometimes, they are earlier than the other high yielding varieties. These advantages are being utilized by growing rice hybrid cultivars commercially. Production of rice hybrid seed for commercial purpose requires 3 lines - A line, B line and R line. The development of the A, B and R lines of rice require special team of scientists with serious dedication, commitment and enough fund. The initial research to develop the three lines requires enough time also. We failed to carry out the research on hybrid rice by utilizing our own rice materials. As a result we are to import A and R lines from China and produce hybrid seed by growing the lines in our country. Moreover, we are importing hybrid seeds from China directly those are supplied to our farmers. The main problem of using hybrid seed is that farmers can not grow their next year crop by saving seed of the crop grown from hybrid seed. If F_2 seeds are used for crop production the yield then reduces to a substantial level. Thus farmers need to buy fresh hybrid seed each year. As a result they need to depend on the private companies for their seed and the cost of production becomes high due to the high cost of hybrid seed. Initiatives are being taken by the scientists to develop an alternative approach to cause asexual reproduction of rice hybrid. Production of apomictic seed in plant kingdom is not very uncommon. There are some wild relatives of our crops where these are genes for apomixis. The seeds are produced from the unreduced gametes or diploid cells of the ovule to produce F_1 seed from the mother plant without the requirement of a male or R line.

If genes for apomixis can be transferred to the rice hybrid plant, F_1 seed can be produced each year by just harvesting seed of the hybrid plants without any serious breeding effort. Farmers will then be able to collect seeds from hybrid field and to save the seeds for growing their next year hybrid crop. The success of this research will make a landmark contribution in the hybrid breeding industry and the third world rice growing countries will be able to have full benefit from the hybrid seed technology.

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