学術講演会のお知らせ

講演タイトル
HYBRID MIMICS, A NEW STRATEGY FOR INCREASED FOOD PRODUCTION

講師: Elizabeth S. Dennis 博士 (CSIRO Agriculture, Australia)
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The growth of the world's population is presenting a major challenge to agricultural industries to produce enough food. Our research could assist in enhancing the supply of food. We explored a new breeding strategy using the laboratory plant *Arabidopsis thaliana*. In crosses between two ecotypes, C24 and Landsberg *erecta* (L*er*), the F1 hybrids have a uniform phenotype with a substantial level of hybrid vigor, both in plant size and seed yield. By choosing the largest plants in the F2 population, similar to the morphology of the F1 hybrid, we carried out a program of recurrent selection based around this plant morphology and were able to produce plants with F1-like properties by the F5-F6 generation. These plants were pure breeding for the parameters of increased biomass and seed yield. We called these pure breeding lines with the fixed properties of hybrid vigor, Hybrid Mimics, because although no longer hybrids, they had the characteristics of large biomass and higher yields which were stabilized over subsequent generations yielding. The pure breeding Hybrid Mimics could be useful hybrid equivalents for crops where the construction of a hybrid seed production system has not been possible. We are encouraged by the results in our *Arabidopsis* system and we are now exploring the development of Hybrid Mimics in the crop species canola and lentil. Application of the Hybrid Mimic breeding strategy in crop species would benefit both farmers and commercial companies and could make significant contributions to food supply across the world, especially in poorer countries.

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問い合わせ：神戸大学大学院農学研究科　資源生命科学専攻　応用植物学講座
園芸植物繁殖学研究室　藤本　龍 (5827)