Two volumes of this book provide up to date information, useful bibliographies and perspectives for the cellular and molecular biology of these organisms. The book comprises 6 parts containing 103 comprehensive reviews: Part I Molecular architecture and assembly of cell parts (consisting of 9 reviews); Part II Metabolism and general physiology (42 reviews); Part III Genome and genetics (22 reviews); Part IV Regulation of gene expression (21 reviews); Part V Growth of cells and cultures (6 reviews); Part VI Ecology, evolution, and population structure (3 reviews). Parts II, III and IV are subdivided into several sections. Part III, for example, consists 7 sections: Section A The genome; Section B Alternations in the genome; Section C Gene transfer, conjugation; Section D Gene transfer, transduction; Section E Gene transfer, transformation; Section F Genetic measures of chromosome size; Section G Strains and useful strain constructions. Section A includes linkage maps of *E. coli* and *S. typhimurium* and gene-protein index of *E. coli,* while Section B deals with recombination, repair and mutagenesis. Although the reviews are written by 131 authors, they are reasonably coordinated with each other. The book also contains a useful subject index, which makes it easy for the reader to find the information needed.

Therefore, all scientists interested in working on *E. coli, S. typhimurium* and other related organisms will find this book an invaluable guidebook for their investigations. Part III and, perhaps lesser extent, Parts II and IV appear to be valuable for those who apply recombinant DNA techniques in *E. coli* for their research in cell genetics and breeding. It is recommended for your laboratory bookshelf.

S. Iida, Zürich

McMullen, N.: Seeds and World Agricultural Progress. NPA Report No. 227. 263 pp., 3 figs., 38 tabs. Washington DC: National Planning Association 1987. Soft-bound $ 25.00.

The National Planning Association, founded during the Great Depression of the 1930s, is a private, non-profit organization which carries out research and policy formulation with the purpose of bringing together the major economic groups – such as business, labor, and agriculture – in order to preserve and strengthen American political and economic democracy. Using the world food balance as a starting point, the present report puts the production and trade of seeds into proper focus. Every chapter is extremely informative as data has been collected from all over the world, but perhaps the

most interesting to breeders are the chapters on the legal and economic issues, on genetic resources and basic plant breeding methods of seed production, and the importance of hybrid corn seed in the European Economic Community.

Once the reader is aware of the strong position of US trade in hybrid corn seed in Europe, the restrictions which were introduced in 1982 by both France and Italy providing an increased protection to seed industries, become understandable. The research time required for the development of new varieties varies between 7.5 years for corn and 18.5 years for cauliflower. In addition, there is a risk that even after the variety can be marketed, it will not be accepted by the farmers: only 25% of the varieties introduced into the market achieve market acceptance. Another important fact is that seed breeding has become largely a multinational business. The structure of the seed industry has changed dramatically with outbacks in public breeding research programs, the expansion and continued success of the private sector, and the breakthroughs in genetic engineering. The challenge of bio-engineering and the need for capital in order to have a realistic chance of competing in this new environment has made the smaller seed breeder give up and merge with a larger company in the hope that the latter can supply research resources (the cost of developing a new variety is estimated as being between 1.5 and 3.0 million US dollars). Successful industrial firms have diversified and entered this new sector which has such as high growth potential. Companies like Royal Dutch/Shell, Sandoz, Cardo, DeKalb/Pfizer, Upjohn, Ciba-Geigy, and Suiker Unie are now associated with the large seed producers of the world. This does not only induce an increased worldwide concern regarding the reduction of genetic diversity and a greater awareness of the value of existing germplasm, but also the worry of a growing dependence of developing countries on industrial ones.

These are only a few of the topics found in this report of the NPA. The author, Mr. McMullen, is a World Bank economist who believes that high yield, adaptable, disease-resistant seed provides a primary means of keeping agricultural costs in check. Barriers to international trade in seed and seed policy in developing countries demonstrate that the network of international agricultural research institutes play a decreasing role. This report is especially recommended to seed breeders. It is clearly and convincingly written.

H. F. Linskens, Nijmegen

Announcement

The 3rd World Congress on Sheep and Beef Cattle Breeding will be held at the Cité des Sciences et de l'Industrie, La Villette, Paris (France) from 19th to 23rd June 1988

The topics to be covered are: meat production in the European Community; farm performance testing; potential of large cattle breeds for beef production; cattle selection for beef production; recent developments and prospects in sheep selection; contributions of physiology and genetics in improve-

ment of reproductive efficiency; genetic variability of host resistance to diseases; infections diseases as a restriction on the exchange of genetic material.

Organizing Committee: P. Mauléon, A. Besselièvre, M. Courot, A. Faucon, F. Grosclaude, K. Meyn.

Information from the General Secretary: R. Ortavant, I.N.R.A., F-37380 Nouzilly, France. Telex: INRATOU 750954 F, Telephone: 47.42.77.00.

Erratum

Theor Appl Genet (1986) 71:810–814. Q. Zhang and S. Geng: A method of estimating varietal stability for data of long-term trials

On page 812 an error was found in equation (8) and in the sentence following it. The corrected equation and statement are as follows:

$$\hat{y}_{ij} = y_{i.} + \hat{b}_i \, (\hat{u}_k + \hat{b}_k \, e_{2j} - y_{k.})$$

$$= \hat{y}_{i.} + \hat{b}_i \, \hat{b}_k \, \hat{e}_{2j}, \tag{8}$$

where $\hat{y}_{i.} = y_{i.} + \hat{b}_i \, (\hat{u}_k - y_{k.})$ and $\hat{b}_i \, \hat{b}_k$ is the reparameterized regression coefficient of the ith variety on environments of period II.