
Preface

I was delighted to be asked to prepare an enlarged and updated edition. The title has changed from *The Applied Genetics of Plant, Animals, Humans and Fungi* to *The Applied Genetics of Humans, Animals, Plants and Fungi*, to reflect a different emphasis, but all sections have been expanded and revised.

There have been many advances in all areas of applied genetics since the first edition was published in 2000. There is now a section on genomics, and the large human and medical chapter includes pre-implantation genetic diagnosis, human gene sequencing, mosaics, chimeras and hermaphrodites, stem-cell therapy and cord-blood therapy. The animal examples have been widened to include cats, dogs, guinea pigs, crocodiles, zeedonks, animal cloning, and sex-sorted sperm. Additional plant examples include sugar cane, hops, coca (for cocaine), potatoes and rhododendrons. The fungal section has much more on improving industrial enzyme production and on yeasts. All chapters have updated references and there are many new photographs.

I am particularly grateful to Mrs Jacqueline Lamb and Mrs Brenda Lamb for proofreading. Dr Simon Zwolinski, of the Department of Cytogenetics, Institute of Human Genetics, International Centre for Life, Newcastle Upon Tyne, has kindly supplied fresh human chromosome photographs showing recent advances. In addition to the acknowledgements in the first edition, I wish to thank Rosemary Mates, C. Bedwell, Irving Gottesman, Carrolls' Heritage Potatoes, Groombridge Place Gardens and Richard Williams of Cogent for help with illustrations. Unacknowledged photos are by the author. The breeders who sent me information (e.g., Jack Dunnett) or who talked to me at agricultural shows have been very helpful.

It is a pleasure to thank many Imperial College Biology Department students for their constructive comments, useful literature searches and essays. I particularly thank Basma Bahsoun, Gareth Bennell, Richard Chatwin, Connie Chien, Ju Chin, Mary Connolly, Jennifer Cummins, Calliope Dendrou, Sophia Docherty, Catherine Gapper, Katherine Gregory, Melissa Iacobelli, Malin Johansson, Victoria Judd, Surbjit Kaur, Marvin Lee, Xiaoyun Lee, Wing-Kit Leung, Sally Marsh, Lynsey McInnes, Victoria Neal, Cherlyn Neo, Joanne Roberts, James Rudge, Katherine Scuffham, Daniel Stewart, June Swanston, Mariko Tavernier, Velma Teng, Samantha Westrop, Claire Whittington and Karen Wong.