AUSTRALIAN AGRICULTURE IN 2020:
FROM CONSERVATION TO AUTOMATION

Edited by
Jim Pratley and John Kirkegaard

AGRONOMY AUSTRALIA
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Agronomy Australia
PREFACE

In the 1960s and 1970s there was much concern in the Australian community about the extent of soil degradation and erosion taking place on Australian farms from over-cultivation. At that time, reduced tillage, direct drilling and early attempts at ‘chemical farming’ were taking place. Initially the availability of Spray.Seed® was enabling reduced tillage and direct drilling to be trialled as a way of reducing the need to create a cultivated seedbed. The subsequent availability of glyphosate and the option of selective weed control using new chemicals such as diclofop methyl (Hoegrass®) facilitated the evolution of conservation farming, later to be incorporated in the broader international concept of conservation agriculture.

In 1980 the Australian Society of Agronomy, now Agronomy Australia, was formed following the first agronomy conference held at Gatton Campus, now University of Queensland. Subsequent conferences have been held approximately every two years. The 4th Conference was held in Hobart and the idea of a monograph that brought together the research on the tillage ‘revolution’ was conceived.

In 1987 Peter Cornish and Jim Pratley were asked by the Australian Society of Agronomy to produce a monograph on the ‘new agronomy’ particularly about minimum tillage and its components. That monograph, “Tillage – new Directions in Australian Agriculture”, was an integrator of the science and technology of the time and is still relevant 30 years later. Since that publication, however, there has been a quiet revolution which has transformed the landscape to one of soil stability from the degraded soils it replaced. But this new paradigm has not been without its own challenges, and this publication provides an integrated account of the evolution of the farming systems in the last 30 years, the new agronomy of today, and the challenges beyond 2020.

The 19th Agronomy Conference in 2019 at Wagga Wagga NSW, provides the opportunity to showcase the agronomy achievements over the last thirty years, and this monograph “Australian Agriculture in 2020: from Conservation to Automation” records those achievements and acknowledges the research teams and farmers who have been at the heart of agronomic progress.

We, the editors, wish to thank the more than 80 contributors without whose cooperation this publication could not have happened. A special thanks goes to John Broster and Julianne Lilley for their assistance in the final stages of preparation for publication.

We also wish to express our gratitude to Agronomy Australia for funding the project which facilitates access to the works so that Australian agronomy achievements can be widely recognised and celebrated. Finally, we acknowledge Charles Sturt University for undertaking the printing and electronic preparation needed to produce both formats of the book.

We commend the contents and the story to educators and future agronomists as the first-hand version of Australian agronomy. To other researchers it is a comprehensive account, fully referenced, to assist them to capture new opportunities for agriculture in the future, and to meet its ongoing challenges.

Thank you again to all who were involved in this journey.

Jim Pratley  John Kirkegaard
Charles Sturt University  CSIRO
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CONTRIBUTORS

John Angus  
CSIRO Agriculture and Food,  
Canberra, ACT 2601, and  
Graham Centre for Agricultural Innovation,  
Charles Sturt University,  
Wagga Wagga, NSW 2678  
john.angus@csiro.au

Diogenes Antille  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
dio.antille@csiro.au

Roger Armstrong  
Agriculture Victoria,  
Department of Jobs, Precincts and Resources,  
Horsham, Vic 3400  
roger.armstrong@ecodev.vic.gov.au

Michael Bange  
CSIRO Agriculture and Food  
Narrabri, NSW 2390  
michael.bange@csiro.au

James Barr  
Agric Machinery Research and Design Centre,  
University of South Australia,  
Mawson Lakes, SA 5095  
james.barr@unisa.edu.au

Simon Barry  
CSIRO Data61,  
Canberra, ACT 2601  
simon.barry@data61.csiro.au

Lindsay Bell  
CSIRO Agriculture and Food,  
Toowoomba, Qld 4350  
lindsay.bell@csiro.au

Michael Bell  
School of Agriculture and Food Sciences,  
The University of Queensland,  
Gatton, Qld 4343  
m.bell4@uq.edu.au

William Bovill  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
william.bovill@csiro.au

Rose Brodrick  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
rose.brodrick@csiro.au

John Broster  
Graham Centre for Agricultural Innovation,  
Charles Sturt University,  
Wagga Wagga, NSW 2678  
jbroster@csu.edu.au

Jaclyn Brown  
CSIRO Agriculture and Food,  
Sandy Bay, Tas 7005  
jaci.brown@csiro.au

Corinne Celestina  
Department of Animal, Plant and Soil Sciences,  
La Trobe University,  
Bundoora, Vic 3086  
c.celestina@latrobe.edu.au

Bhagirath Chauhan  
Queensland Alliance for Agriculture and Food Innovation (QAAFI),  
The University of Queensland,  
Gatton, Qld 4343  
b.chauhan@uq.edu.au

Marisa Collins  
Department of Animal, Plant and Soil Sciences,  
La Trobe University,  
Bundoora, Vic 3083  
m.collins@latrobe.edu.au

Jason Condon  
Graham Centre for Agricultural Innovation,  
Charles Sturt University, and  
NSW Department of Primary Industries,  
Wagga Wagga, NSW 2678  
jcondon@csu.edu.au

Mark Conyers (Retired)  
Wagga Wagga, NSW 2650  
mconyers@bigpond.net.au

Elizabeth Coonan  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
Fenner School of Environment and Society,  
Australian National University, ACT 2601  
elizabeth.coonan@csiro.au

Yash Dang  
School of Agriculture and Food Sciences,  
The University of Queensland,  
Toowoomba, Qld 4350  
y.dang@uq.edu.au
Clive Kirkby  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
clive.kirkby@csiro.au

John Kirkegaard  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
john.kirkegaard@csiro.au

David Lamb  
University of New England,  
Armidale, NSW 2351  
dlamb@une.edu.au

Julianne Lilley  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
julianne.lilley@csiro.au

Rick Llewellyn  
CSIRO Agriculture and Food,  
Waite Campus,  
Urrbrae, SA 5064  
rick.llewellyn@csiro.au

Lynne Macdonald  
CSIRO Agriculture and Food,  
Glen Osmond, SA 5064  
lynn.macdonald@csiro.au

Sarina Macfadyen  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
sarina.macfadyen@aciar.gov.au

Allan Mayfield  
Allan Mayfield Consulting,  
Clare, SA 5453  
allan@asmayfield.com.au

Therese McBeath  
CSIRO Agriculture and Food,  
Glen Osmond, SA 5064  
thereese.mcbeath@csiro.au

Jeff McCormick  
Graham Centre for Agricultural Innovation,  
Charles Sturt University,  
Wagga Wagga, NSW 2678  
jmccormick@csu.edu.au

Alan McKay  
Soil Biology and Molecular Diagnostics,  
South Australian R&D Institute,  
Urrbrae SA 5064  
alan.mckay@sa.gov.au

Holger Meinke  
Tasmanian Institute of Agriculture,  
University of Tasmania  
Hobart, Tas 7001  
Holger.Meinke@utas.edu.au

Andrew Moore  
CSIRO Agriculture and Food,  
Canberra, ACT 2601  
andrew.moore@csiro.au

Michael Nash  
School of Agriculture, Food and Wine  
University of Adelaide  
Urrbrae, SA 5064  
whatbugsyou@gmail.com

Gary Northover  
Tractor and Machinery Association,  
Glen Iris, Vic 3164  
gary@tma.asn.au

Rob Norton  
Faculty of Veterinary and Agricultural Sciences,  
The University of Melbourne,  
Parkville, Vic 3010  
robnorton001@gmail.com

Garry O’Leary  
Agriculture Victoria,  
Grains Innovation Park,  
Horsham, Vic 3400  
garry.oleary@ecodev.vic.gov.au

Kathy Ophel-Keller  
South Australian R&D Institute,  
Urrbrae, SA 5064  
kathy.ophelkeller@sa.gov.au

Susan Orgill  
NSW Department of Primary Industries  
Wagga Wagga, NSW 2650.  
susan.orgill@dpi.nsw.gov.au

Jackie Ouzman  
CSIRO Agriculture and Food,  
Waite Campus,  
Urrbrae, SA 5064  
jackie.ouzman@csiro.au

Elizabeth Petersen  
Department of Primary Industries and  
Regional Development,  
South Perth, WA 6151  
liz.petersen@tpg.com.au