VALE DR MAARTEN STAPPER

Maarten was a highly talented and motivated farming systems agronomist, and a world leading irrigation agronomist. His work had huge impacts on the productivity and profitability of irrigated cropping in the Riverina, and on dryland cropping across southeast Australia.

MAARTEN graduated as an engineer in farming systems and catchment management from Wageningen Agricultural University, the Netherlands. He then completed a PhD at the University of New England in Armidale on wheat production systems, linking crop physiology with agronomy and daily weather using simulation modelling. His field work was conducted at the International Centre for Agricultural Research in the Dry Areas (ICARDA) in Syria.

Globetrotting student comes to Griffith

In 1983 Maarten received a 3-year appointment with CSIRO Plant Industry and was based at the then CSIRO Centre for Irrigation Research at Griffith. He was employed as the researcher underpinning SIRAGCROP, a new and large collaborative project (1983–89), involving several CSIRO divisions, the NSW and Victorian Departments of Agriculture, IREC and others. The aim of SIRAGCROP was "*a collaborative venture to improve crop yield and water use efficiency in south-eastern Australia irrigated areas. The development of a computer-based crop management model with ready access by advisory specialists and farmers is central to the project*".

This was Maarten's first big project with farmer involvement. He attributed his early farm visits with John Sykes and Mike Hedditch to laying the foundation for his special connection with local farmers and district agronomists for rapid knowledge transfer. He derived benchmarks associated with yield from detailed measurements of plant and crop development in wheat trials sown across different maturities, sowing dates, locations and years[1].

In his first years at Griffith, Maarten also developed a computer-based irrigation scheduling program which was used to calculate daily crop water use and a potential 2-week water use forecast. The potential daily water use forecast appeared as '*Water Watch*' on TV after the local evening news. He also developed a nitrogen fertiliser calculator.

Inspiration for the crop check systems in irrigated and dryland cropping

Maarten's work was the inspiration for and provided the foundations for the development of Ricecheck (led by John Lacy, NSW Department Agriculture), which was launched in 1986. His work also fuelled John's initiation of the Finley Five Tonne Club in 1985. Average irrigated wheat yields at that time were only 2.5 t/ha, and the 'club' encouraged farmers to meet a range of crop management and development targets to lift yields to 5 t/ha.

[1] Stapper (1985) Yield-determining crop characteristics. IREC *Farmers' Newsletter* Large Area No. 126. In that issue John Sykes wrote an introduction about the management of irrigated wheat, and John Lacy introduced the Finley Five Tonne Club.

Dr Maarten Stapper's work provided the foundations for Ricecheck, Cropcheck and TopCrop programs.

The important ingredients behind these highly successful initiatives were the introduction of crop observations at key crop stages to achieve optimum crop performance at these stages (e.g. plant population, tiller and spike density, green leaves per spike). The program provided the management required (e.g. water, nitrogen) to achieve the highest attainable yield.

With such a significant impact on productivity in the region, farmers and district agronomists became very concerned about Maarten's 3-year term ending and lobbied hard to maintain his position, resulting in a 2-year extension. In 1987 he received an indefinite position as a Senior Research Scientist at the CSIRO Griffith Centre, backed by 9 pages of letters of support from collaborating farmers and district agronomists.

In 1989 CSIRO Plant Industry lured Maarten back to Canberra to develop a decision support system for dryland farmers in the FM500 farming program. During this period, Maarten's approach of linking crop growth stages and management to achieve optimum yield also underpinned the introduction of Cropcheck for all crops (developed by John Lacy). Cropcheck then led to the development of the national TOPCROP program (with input from Maarten), with all 'check' programs except Ricecheck coming under the TOPCROP Australia banner.

In the meantime, the GRDC panel had visited the irrigation areas and heard repeated requests from farmers to have Dr Stapper back for research "*to identify under irrigation and good management wheat genotypes with high attainable yields and desired quality attributes…and to develop variety-specific management packages*". As a result, Maarten worked as a visiting scientist based at CSIRO Griffith for another 5 years (2001–05). The final report of his work during this period was published in the *Farmers' Newsletter* (2005)[2].

A passion for biological farming

Maarten's deep-seated belief to only use inputs when needed according to crop observations gradually led him to pursue biological farming. In Maarten's words, "*this method minimises the use of synthetic fertilisers and chemicals while restoring and stimulating the decimated local soil biology, thus creating a healthy soil*". His passion for biological farming was not appreciated by his senior managers in CSIRO at the time, which eventually led to his departure from CSIRO in 2007.

After Maarten left CSIRO he worked as a passionate Biological Farming Systems Agronomist until 2021, assisting farmers in the transition from industrial to biological farming systems.

Beyond agronomy

Maarten loved cooking and was very focused on food quality. He advocated for the least refined and processed, wholesome, nourishing traditions. His hobby was tracing family history back to the 17th century in Holland, Old Zealand, Frisia and Utrecht. He lived in the Middle East, with a strong interest in the history of Mesopotamia, and was a frequent visitor to India.

Sadly, Maarten died on 20 September 2025 at Clare Holland House in Canberra. He was a beloved father, husband, father-in-law, grandfather and brother, and devoted to his family.

[2] Stapper (2005) Progress in Irrigated Wheat Research. IREC *Farmers' Newsletter* Large Area No. 169

Dr Stapper made a significant contribution to increasing crop productivity in the Murrumbidgee Valley and across southeast Australia.

Written by Dr Liz Humphreys (former CSIRO Griffith scientist), drawing on Maarten's memoirs written for the upcoming History of CSIRO Griffith (1978–2016) and information about Maarten on the Biologic AgFood website https://www.biologicagfood.com.au/