

Invited paper: The tension between specialization and diversification in the evolution of farming systems for the Australian crop-livestock zone.

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Abstract

The wide scale use and general familiarity about the form taken by mixed crop-livestock farming systems in Australia often leads to inadequate recognition of their biophysical and economic complexity. The use of diverse crop and livestock activities and their integration delivers synergies and competition at paddock and wholefarm levels. This integration of activities delivers important consequences within and between years while also impacting on the biophysical and economic risks associated with production. Additional complexity arises in managing the cost and benefits of the integrated systems on sustainability.

Despite this complexity mixed farming systems have evolved steadily in response to the technical, economic and social changes. Going forward, farmers face the simultaneous challenge to increased productivity and enhanced sustainability. The productivity imperative arises from the ongoing decline in terms of trade, the dilemma of a hungry world paying less for its food. Sustainability enhancement is required to maintain or improve long-term productive capacity and impact on the wider environment.

Farm businesses have and will continue to respond with structural and technological change. This will result in fewer but larger farm businesses and more part time farmers. Technological change, often the payoff from research and development activities, has delivered higher productivity from existing activities as well as creating an expanded array of options such as new crop, pastures and livestock production systems.

The operational challenge facing farmers is to simultaneously operate larger enterprises and overlay new technologies. This complex is demanding and changes will only occur where clear benefits are anticipated. Faced with growing complexity, farmers will seek to apply their management efforts more effectively and one likely strategy will be increased enterprise level specialization. This may be expressed as a reduced number of enterprises within a farm or alternatively might involve additional managerial input, with managerial responsibilities for special aspects sometimes spread more widely within the business. Alternatively farmers may increase their reliance on external resources to deliver the operational or managerial integration of secondary activities. Changes of this sort have important implications for the research and operational servicing of farm businesses as farmers more carefully analyse their options and choose more critically those technologies and systems that match their specific needs.