

Reasons for the lack of grower adoption of technology arising from research

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The objective of applied research is to benefit the grower and the community at large. Most research achieves this wholly or in part while certain endeavours fail due to lack of adoption by growers. It is proposed that responsibility for adoption is not the sole province of extension staff, but falls heavily on the researcher.

Three case studies are illustrated where research findings promoted by researchers have failed to receive adoption. Extension operatives and grower groups can be easily blamed for this lack of adoption because of their inadequacies. In many instances this is not realistic for the inadequacies are in the technology package and not the recipient.

Irrigation scheduling using evaporation pan data

Research has led to the development of irrigation scheduling packages using data from evaporation pans. This research was adapted for use in the southern coastal area of Queensland and promoted to growers. Little adoption has occurred and growers still rely largely on rule of thumb techniques. The lack of adoption could be explained by the following factors: (i) the wide variability of soils and microclimates in the area made application of the data unreliable, (ii) the complexity of the calculations to adjust for the variabilities were beyond the understanding and management capacity of growers, and (iii) little physical or financial advantage over existing methods was demonstrated or obvious to stimulate interest.

Managed pest control in macadamias

As the macadamia is susceptible to a wide range of insect pests, a schedule of sprays is required between flowering and maturity. Pest incidence varies from farm to farm and season to season. A system of managed pest control which involves monitoring insect occurrence and damage has been developed. The concept has been promoted to growers with little adoption. This could be attributed to:- (i) a complex recording technique which is not readily understood by growers and beyond their management capabilities, (ii) physical difficulty in confidently assessing insect numbers because of their small size, (iii) lack of confidence by growers in pest management techniques generally, and (iv) little physical or financial advantage of the technique has been demonstrated in years of high pest pressure.

Vibra-packing of citrus

Citrus have traditionally been pattern packed for sale with fruit counts indicating contents. Research showed that vibration settling was an acceptable packing method and significantly reduced packaging time and cost. The technique was well adopted initially but subsequently fell into disfavour because of a lack of support by wholesale agents. Discounting of vibra-packed citrus was such that growers were forced to revert to pattern packing. This lack of long term adoption was attributed to a constraint in the marketing system. The significance of this case is that grower adoption can be strongly influenced by factors outside their normal sphere of consideration.

It is proposed that researchers should be aware of adoption theory and specific adoption constraints of the issue being researched. An assessment can then be made as to whether work should proceed or whether the package arising can be tailored to fit the recipient's needs and characteristics.

A companion paper examines some approaches to these cases which may have improved adoption and outlines some possible reasons why adoption constraints are not considered.