

# OXODEGRADABLE THIN PLASTIC FILM IN COTTON

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FIGURE 1. Thin film and bare plots.



FIGURE 2. Early growth: thin film and bare plots.

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## Further Information

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## Question/issue being addressed

Early planting poses some risk in cool regions resulting in re-planting if cold days or frost occur after emergence. So the question is, will oxodegradable thin plastic film increase soil temperature and conserve seedbed moisture potentially reducing the risk in early planting, while not compromising lint yield and fibre quality of cotton?

## Key results and findings

Soil temperatures at planting depth were elevated by 2-4 oC under the film compared with the bare soil and the soil did not dry to the same extent under the film, resulting in earlier and uniform emergence under the film. Climate analysis indicated a greater risk in planting early (1st week Sept.) than the normal target date (2nd week Oct.) due to cold shock and frost days. Lint yield was not significantly different with early planting, while there was a significant difference at the later planting between the film and bare soil treatment. It is speculated that early planted seedlings were exposed to cold days which compromise development, while the later planting occurred when temperatures were increasing. All surface film had degraded by harvest.

## What impact will this have on the Australian cotton industry?

Seedlings emerge earlier and seedbed moisture is conserved under thin film which may reduce the need for an early irrigation. Lint yield was not compromised by thin film.

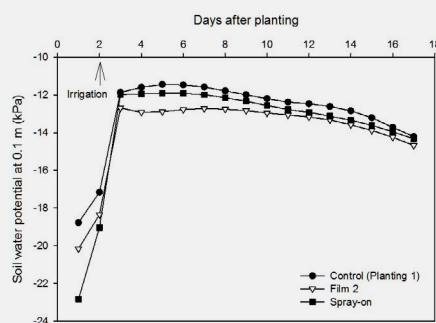
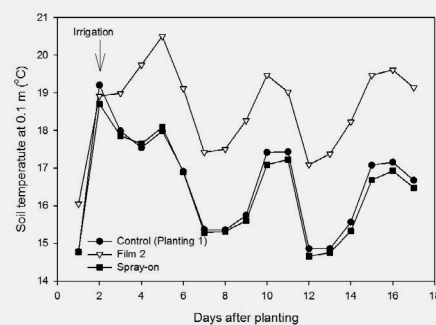


FIGURE 3. Seedbed soil temperature (°C) and water potential (kPa) at 0.1 m.

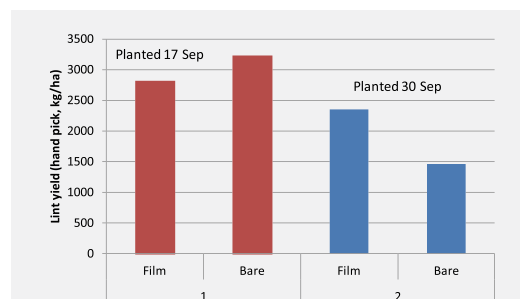


FIGURE 4. Handpicked lint yields (kg/ha).