

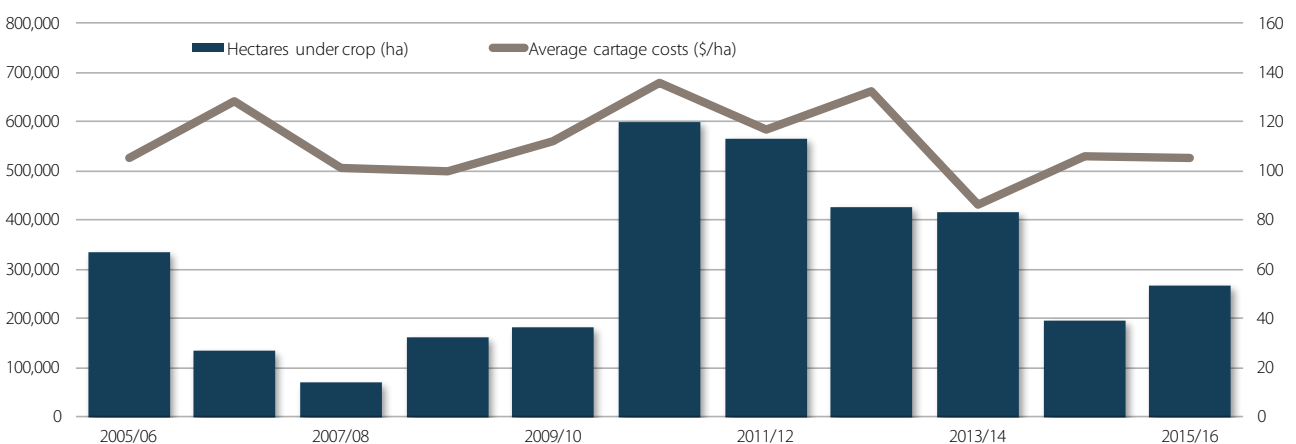
## Cotton Transport Restraint System Productivity Assessment

Lawrence Consulting was commissioned by Cotton Australia to undertake a basic economic assessment of the productivity benefits and subsequent cost savings to cotton growers of a new round module cotton transport load restraint system developed by Collier and Miller, which has the capacity to transport nine modules as opposed to the standard six. The 'Cotton Crush' restraint system has been matched to the industry standard 45-foot drop-deck trailer, allowing existing trailers to be converted to the new restraint system and reducing the number of loads by one-third.

The impact for the cotton industry is the potential to significantly reduce the level of costs associated with cartage of round modules and provide time savings during the loading process. Currently, round bales comprise approximately 85% of total cotton modules, a ratio which is expected to further increase. Industry estimates provided by Cotton Australia, growers and contractors indicate a take-up rate of the new load restraint system of 70% of all movements within 5 years, due to the benefits of utilizing the system, in particular, over longer cartage distances between farm and gin, the average distance for which is estimated at 50 kilometres. Initial estimates of cost impacts from growers and contractors suggest that a straight reduction in number of loads of one-third is off-set by an increase in fuel costs of between 20-27% and a small increase in the time to load; accordingly, total cost savings on cartage due to the new load restraint system are estimated at between 20-25% on average.

Comparative analysis undertaken by Boyce Chartered Accountants and the Cotton Research and Development Corporation (CRDC) indicate that the average cartage cost to growers was \$105 per hectare in 2015/16; over the past five years, the average cost was \$109/ha and over the past ten years the average was \$112/ha. Based on a 5-year average, the total cartage costs for the Australia cotton industry are estimated at \$40.8 million per annum based on annual production of approximately 3.66 million bales from almost 373,500 hectares.

### Australian Cotton Cartage Costs



Source: Cotton Australia, Boyce & CRDC

Based on the assumptions outlined above, the annual savings to growers from the anticipated take-up rate is forecast in the range of \$4.1 million under a low scenario (i.e. lower total crop size (approx. 308,000 hectares, or 10-year average); cost savings per hectare of approx. 20%) to \$6.1 million under a high scenario (i.e. crop size of approx. 374,000 hectares (5-year average); cost savings per hectare of approx. 25%). Under the low scenario, the share of cost savings between New South Wales and Queensland growers is approximately \$2.7 million and \$1.4 million, respectively; under the high scenario, this ratio is approximately \$4.0 million and \$2.1 million, respectively.