Detecting (and removing) contaminants in ginning

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Australian cotton is usually purchased to produce high quality, fine count ring spun yarn. Spinners nominate low contamination as one of the favored properties of Australian cotton.

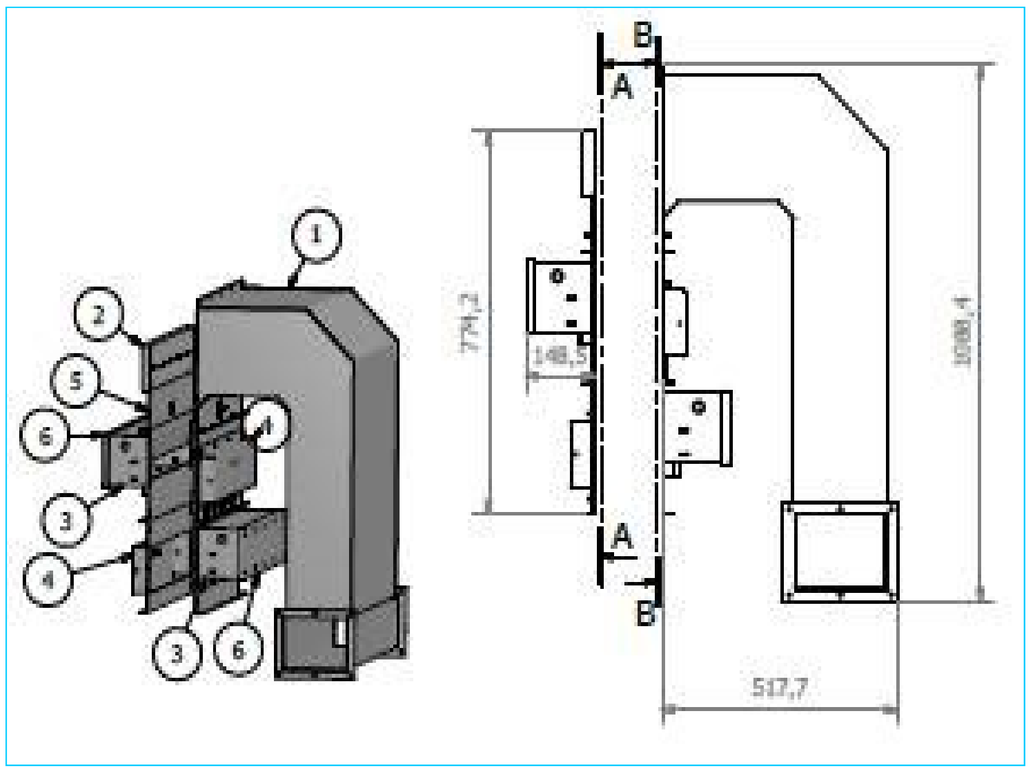
The advent of new harvesters that produce wrapped modules has reduced harvest costs. However, the plastic that encases these modules presents a serious contamination risk. Evidence over the last two seasons indicates that not all plastic wrap is removed in the module feed area, and that plastic ends up in export bales delivered to spinners.

The Australian ginning industry has initiated a project with CSIRO and the CRDC to develop systems that detect and remove contamination from cotton during ginning before baling.

To date a contamination sensor system for the module feeder has been developed and installed in four gins. Work continues with Loptex Italia on a system to detect and remove small fragments of (plastic) contaminant from the fibre flow between the gin stand and lint cleaner.

It is estimated that round module harvesters harvested more than 60% of the Australian crop in 2012. The photos above show modules in a gin yard and the layered plastic wrap that becomes contamination in export bales.

The photo above left shows the contamination sensors (the black boxes) developed by CSIRO and the Australian ginning industry mounted to the rear of the module feeder. The sensor alerts ginners when module wrap plastic is caught around the beaters in the feeder (above right).



The drawings on the left show features of the Loptex Italia sensor and contamination removal system that will remove small fragments of plastic and other contaminants from the material flow between the gin and lint cleaner.

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