



Managing contamination in cotton.

Contamination in cotton, even if it's just a single foreign fibre, can lead to the downgrading of yarn, fabric, or garments, or even to the total rejection of an entire batch. It can also cause irreparable harm to the relationship between growers, ginners, merchants and textile and clothing mills.

As a result, contamination continues to be an important cotton fibre quality parameter in the production pipeline, with countries and cotton that are perceived to be contaminated heavily discounted.

At the same time, spinners are implementing various methods to detect and eliminate contamination. The incidence of plastic contaminants is becoming a major problem in countries that have adopted the new John Deere spindle and stripper harvesters which produce round modules covered with plastic. ≥90 per cent of the Australian crop is harvested by these machines.

Every round module wrap is made up of 21 meters of plastic which weighs about 3.8 kg. We use, on average, 905 metric ton or 5 million meters of plastic to produce 1 million bales annually to wrap the seed cotton.

Therefore, it's essential that our industry does all it can to prevent plastic wrap making its way into cotton bales. The first and most logical step to address the problem of contamination is to prevent/avoid or minimise contaminants from entering the production process, particularly during growing and harvesting, through appropriate farm management and associated practices. These include:

ON-FARM:

- All workers should be made aware of the consequences of contamination and be provided with the tools to clean up and isolate rubbish. For example: provide garbage bins in which all waste is thrown and use only white cleaning rags.
- Where practical, remove plastic and other contaminating debris from the field prior to harvest.
- Store the rolls of plastic wrap in their original packaging in an enclosed shed to avoid exposure to direct sunlight and moisture.
- Ensure that the harvester is set up according to the Operators Manual and that regular cleaning and servicing of the harvester is conducted before, during and after harvest.
- Use only trained and skilled operators to operate harvesters.
- When transporting modules through harvested rows with a mast-type tractor, the module should be carried high enough to prevent drag and tearing of the underside of wrap.
- Modules should be staged on a high, flat and well drained area of bare soil.
- Modules should be staged as per the method of transport and storage at the gin ie. end to end (sausage) or at 90° from end to end (wagon wheel).
- When placing modules together for transport, a gap should be left between each module.



ON-FARM (Cont):

- Significant wrap tears must be repaired in the field prior to loading on module truck to prevent further wrap damage and ginning problems.
- Loose outer tails must be secured with 3M™ Hi-strength 90 spray adhesive or lint bale repair tape.
- Tag modules and notify the ginner of potential issues caused by malfunctions during harvesting.
- When using module trucks with chain beds to load

and transport modules ensure that they are fitted with chains that have rounded cleats that will not puncture the plastic wrap.

- When using flatbed trailers ensure that modules are loaded by appropriate equipment without piercing the module wrap.
- Avoid puncturing or tearing the wrap when loading and unloading modules.

AT THE GIN:

- Add information on contamination in grower packs distributed by Grower Services.
- Make workers aware of the consequences of contamination during induction, with strict housekeeping rules in place.
- Display contamination signs to raise and maintain awareness.
- Use only trained and skilful operators in the module feeding area.
- Formulate and implement standard work practices for handling and transportation of round modules.
- Moon buggies used to unload, and transport modules should be fitted with chains that have rounded cleats that will not puncture the plastic wrap.

- Inspect modules prior to ginning to ascertain condition - care should be taken when ginning damaged modules.
- Avoid contaminants entering the gin by installing sensors in the module feeder to automatically detect and alert gin operators to the presence of large pieces of contamination caught on the module beaters.
- Cut the wrap in the safe cutting zone to prevent the possibility of pieces of wrap entering the gin.
- Stop production and clean out all machines, if for some reason, plastic has entered the gin, with the affected bales segregated and handled according to company policy.

IN THE SUPPLY CHAIN:

- Classing facilities should notify the gin when any plastic is found in classing samples.

- Feedback from merchants to gin/grower if any complaint received regarding plastic contamination.

