



From the Field – Unsound kernel?

Even at this late stage in the season, nut intake contains high levels of insect damage, mould and germination. Despite being hand and in some cases water sorted at growers' facilities, unsound levels of the majority remain high. Floating removes immaturity and some insect damage if the shell has been penetrated, it does not remove mouldy or germinated nut. Why are unsound levels high this season despite spraying programs and mulching prior to harvest?

Growers have shown concern about the quality of their kernel recovery because their nut appeared visually unblemished from the outer shell. The insect damage consists mainly of fruit spotting bug which is generally visible as a sore like appearance on the outer shell. Fruit spotting bug (FSB) damage is caused by its piercing sucking mouthpart called a proboscis which sucks the sap of the kernel through the green husk and undeveloped shell. The majority of this insect damage is visible and generally removed as it passes along the sorting table. However, there were two waves of FSB attack this season, the first was in mid October followed by another mid to late November.

Growers that had sprayed for FSB in October were unaware of the second wave of the insect that re-emerged in November. The second wave had fed on the kernel through an almost hardened shell resulting in what appeared on the sorting table to be unblemished nut. Stings were evident on the inside of the husk and growers that had their orchard monitored for the full season were recommended to re-spray. Once the nearly matured nut has been damaged by FSB, it does not necessarily shed early. It can remain in the tree for some time even after mulching and the first harvest, hence the high level of damage recorded in the second pick-up.

Growers that had thoroughly mulched their orchard floor could not understand the levels of mould and germination. Rainfall has not been consistent enough to regenerate water tables or saturate soil to the point of heavy runoff. In other words hot, wet, humid conditions ideal for germination did not occur this season that would affect nut lying on the orchard floor for any period. So why do we have high readings of germination and mould this season? The part answer is simple – stick tights. Germination is generally seen by the grower as a cracked shell with an emerging root structure. The not so obvious appearance of germination is when the shell is perfect but the kernel contains a grey to green discolouration at the tip of the kernel's crown. Stick tights can be responsible for a number of problems in the orchard and this season mould and germination have been highlighted.

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