

# Aflatoxin Policy

Health authorities and customers regularly test pistachios and other food stuffs for aflatoxin – it is regarded as a highly carcinogenic substance. Iran has a major on-going problem with aflatoxin contamination. It resulted in all Iranian exports to Europe being banned for 18 months and a reduction in the consumption of pistachios in Europe by about 40% for a decade. Australian pistachios have a clean reputation in the market for aflatoxin. It is essential this market status is maintained.

APPC has a policy for aflatoxin monitoring of incoming, in process, and outgoing stock.

Aflatoxin in pistachios usually occurs in the growing phase and frequently in “early splits”. It is also more likely to occur in deliveries late in the season when the hulls have started to break down and the kernel exposed to the air with the increased risk of mould infestation. Californian research shows that aflatoxin in nuts with a sound, intact hull is unlikely.

During the 2007 season, aflatoxin above the Australian Food Standards Code was detected in some final graded product. This was detected in the APPC routine quality procedures prior to dispatch to customers. It was isolated and no failing product was delivered into the Australian market. The losses on this 2007 product were entirely borne by APPC.

In 2008 season APPC instigated an aflatoxin testing program for most deliveries of in-hull nuts on arrival, before hulling. Several Lots were detected as aflatoxin positive on arrival at the APPC plant. These were isolated and hulled and dried separately. The positive loads achieved a return about 50% of the average 2008 Pool. Some positive loads have been detected in each of the last four seasons. Although conditions for the 2020 harvest season were very good, a small amount of product was again detected for aflatoxin.

For the 2021 season, all arriving loads will be tested for aflatoxin.

The cause of aflatoxin contamination with pistachios is now becoming settled. The research is strongly of the view that if the hull remains intact, the mould cannot reach the kernel. The major sources of hull damage are:

- Early splits – the research suggests that these are largely caused by water stress in spring/early summer
- Physical damage such as hail, particularly later in the season
- Insect damage – unusual in Australia but common in Iran and California. Carob Moth and carpophilus beetle could be aflatoxin vectors.
- Late harvest – natural hull break-down of overripe nuts exposes the kernel to fungal invasion.
- Very dry conditions will increase the opportunities for the growth of *aspergillus flavus*, the mould that actually produces aflatoxin. The dry conditions for the 2015, 2016 and 2018 harvests probably attributed to the increase in aflatoxin presence.