



FACTSHEET: PATULIN

What is patulin?

Patulin is a mycotoxin (a toxic fungal metabolite) that is produced by certain moulds such as Penicillium and Aspergillus. These moulds can grow on many fruits and are commonly found on apples. Patulin is often associated with storage diseases and there can be a higher risk in fruit from longer term storage. The presence of patulin in foods is undesirable and regulated in many countries, due to its toxic nature.

What products should be tested for patulin?

Apple juice and cider are routinely tested for patulin. Patulin is heat stable and therefore not destroyed by pasteurisation, so early detection is imperative.

As the production of craft cider is strong and still growing, patulin analysis is something that cider makers should be aware of.

How is patulin measured?

Testing for the present of patulin in apple juice is conducted by high performance liquid chromatography (HPLC) with ultra violet (UV) detection. This is a great analytical technique for separating out multiple compounds and detecting them at very low levels. Some producers test for the presence of patulin prior to processing every batch of apple juice.

Are there regulations on the levels of patulin?

The level of patulin in apple products, including juice and cider, is widely regulated around the world. As recently as this October 2017, two Australian apple juice products had to be removed from supermarket shelves in Hong Kong due to elevated patulin levels.

The levels we are talking about are very low, with most overseas markets specifying upper limits of 50 ug/kg (50 ppb). This level does vary depending upon the apple product produced, and in some markets the level is much lower for products destined for babies and infants. For example it is 10 ppb in apple juice for infants in the EU.

© Vintessential Laboratories 2018. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior written permission of the publisher.