

# Cripps Pink condition known as ‘Fat Lady’

The condition in Cripps Pink apple variety known as ‘Fat Lady’ results from a fault in the division of cells. Scientists Anthony Koutoulis and Aina Price from the University of Tasmania, in Australia studied the condition in 2004 but many questions remain about what causes the condition and how it spreads.

The Cripps Pink apple variety has a propensity for faulty cell division.

In normal cell division (or mitosis) both sets of chromosomes combine and the cell then divides into two with an equal amount of DNA/chromosomes in each cell. In the case of Fat Lady this division does not occur and the cells then have twice the amount of DNA causing an increase in fruit size and a lowering of overall fruit quality. This process is called polyploidy and in a range of crops is experimentally induced to try to get larger yields. It is interesting to note that some of the active ingredients in herbicides used in orchards are used to induce this phenomenon in the laboratory.

As a general observation, the initial expression of Fat Lady symptoms on a Cripps Pink tree appears to be on a single branch. However, if the Fat Lady symptoms are present in the fruit of one limb, the whole tree has the condition.

This Fat Lady condition in Cripps Pink appears to be quite unique in the apple world.

The University of Tasmania researchers are interested in researching the issue further. The research would centre on understanding what starts Fat Lady and how and why it spreads. At this stage, it is not expected that the research would lead to a cure of the condition but it may discover that there are management practices that could limit its impact.



In April 2007, Garry Langford, General Manager of the Australian Pome Fruit Improvement Program Limited (APFIP) met with the scientists to learn more about the condition.