THE CHEMISTRY OF WATERMELON

COLOUR & AROMA

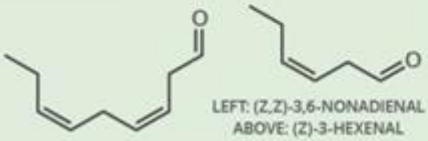
LYCOPENE

Pigment that causes watermelon's pink colour, also found in tomatoes

The pink colouration of red watermelon flesh is due to the presence of lycopene. This compound is also responsible for the colour of tomatoes, but it is found in even higher levels in watermelon.

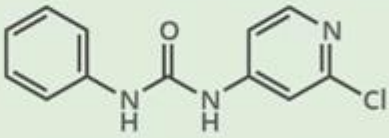
The aroma of watermelon is contributed to by a variety of chemicals, generated by enzymatic oxidation of fatty acids when the watermelon is cut. The primary aroma-impact compounds are thought to be C_6 and C_9 aldehydes.

The aldehyde (Z,Z)-3,6-nonadienal is of particular significance, and is often itself described as having a fresh, watermelon-like odour. (Z)-3-hexenal, another aldehyde present, also contributes to the smell of fresh-cut grass.



LEFT: (Z,Z)-3,6-NONADIENAL
ABOVE: (Z)-3-HEXENAL

EXPLODING WATERMELONS



FORCHLORFENURON

A growth-promoting chemical approved in the US for use on kiwi fruits, raisins, and grapes. It is normally used in low quantities.

In 2011, farmers in Eastern China were hit by a spate of exploding watermelons. This was a result of their treatment with forchlorfenuron, a plant growth regulator. Forchlorfenuron acts with plant auxins, naturally present hormones that play an important role in plant growth, to promote cell division and growth. It was suggested that overuse of forchlorfenuron during wet weather resulted in the exploding watermelons, affecting an area of approximately 115 acres.