THE CHEMISTRY OF DAHLIA FLOWER COLOURS

WHAT CAUSES DIFFERENT COLOUR DAHLIAS?

The colours of dahlia flowers are a result of anthocyanin-, chalcone- and aurone-derived pigments. Colourless flavones interact with and stabilise anthocyanin pigments, which also influences dahlia flower colour.



Derivatives of butein (top), sulfuretin

(bottom) and isoliquiritigenin

Derivatives of pelargonidin (top) and cyanidin (bottom)





WHY DON'T WE SEE BLUE DAHLIAS?

A single enzyme, flavonoid 3'5'H-hydroxylase (F3'5'H), is responsible for generating the precursor to the anthocyanidin delphinidin. Delphinidin-derived anthocyanins give blue colours. Dahlias cannot make the F3'5'H enzyme, so blue dahlias aren't possible.





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