



## **Egg Yolk Colour – Frequently Asked Questions**

### **What makes egg yolks yellow?**

The colour of the yolk is due to substances called ‘carotenoids’. Yolk colour is dependent on the amount of carotenoid pigments that a hen consumes. A high level of carotenoid pigments in the diet mean that the yolk will have a deeper, more orange colour, and a lower level carotenoid pigments mean the yolk will have a paler, yellow colour.

### **Where do carotenoid pigments come from?**

Natural sources of carotenoid pigments include yellow maize (corn) and alfalfa (lucerne). Carotene can also come from the grass and clovers that free-range hens have access to. Synthetic carotenoids (such as carophyll yellow and red) and natural carotenoids (such as those derived from paprika) can be added to the feed to enhance the yolk colour.

### **How often are carotenoids added to hen feed in New Zealand?**

Most eggs from chickens consuming commercially-produced chicken feed will contain added carotenoid pigments. The carotenoid can be from both organic and non organic sources.

### **Should I be concerned about the safety of carotenoids in the feed?**

Whether synthetic or natural, all of the added carotenoid pigments used in hens’ feed in New Zealand are approved by the New Zealand Food Safety Authority (NZFSA). The approval process is robust, and involves disclosure of information such as manufacturing details, product constituents, and any food safety risks posed by the manufacturing process. The NZFSA will not approve products that could pose a food safety risk to animals or consumers.

### **Is it true that egg yolk carotenoids can have health benefits?**

Studies have shown the consumption of egg yolk carotenoids is positively linked with eye health benefits. A study by Dr. Carrie Ruxton, sponsored by the British Egg Industry Council, found that egg yolks contain high levels of the antioxidants lutein and zeaxanthin. These carotenoids accumulate in the eyes and may prevent age-related macular degeneration – a leading cause of blindness in people aged over 60. Lutein is also found in green leafy vegetables, but the lutein in egg yolk is much more readily available to the body.

### **How do you measure egg yolk colour?**

Egg yolk colour can be measured using a yolk colour fan, which has a scale ranging from 1 (pale yellow) through to 15 (deep orange). New Zealanders prefer a yolk colour at the higher end of the scale (11-13), rather than the middle of the scale (7-10).

### **Do eggs with different yolk colours have different nutritional values?**

The nutritional value of the egg is not affected by the yolk colour.

### **Where can I get more information about the carotenoids used in the feed for egg production?**

The best way is to contact the farm that produced the eggs you have purchased. They will be able to put you in touch with their feed supplier, who will have more information about the products used in their feed. Alternately, you can contact the Egg Producer's Federation on the contact details listed above.

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