

Dear Valued Customer,

After the publicity and media attention gained from the EU banning of the “Southampton Six” azo- dye colours, consumers are more aware and are more demanding natural alternatives. As told by Innova Insights “Consumer associations assume that additive food colours will be used much less frequently in future, and are pushing for more natural ways to add colour in foods” (1).

Regarding to our high interest to consumer demands Kervan Gıda has been using natural colours in their products since 2010. The aim of this article is to inform you better about natural colours with a technical approach.

### **What is natural colours?**

Colour is a substance who may give colour to a liquid in which is soluble (2). Food colourants are classified depending on source. Synthetic colourants are manufactured chemically and used commonly in food, pharmaceutical and cosmetic industries. However, natural colourants are extracted from renewable sources such as plant materials, algae, etc (3). Natural colours are used in food, pharmaceutical, cosmetic, feed and textile industries (2).

### **Examples of natural colours**

#### ***Anthocyanins***

Anthocyanins are water soluble pigments responsible for the attractive red, purple and blue colours of many flowers, fruits and vegetables. They are sensitive to pH change, being reddest in strongly acidic conditions and become more blue as the pH rises. Main sources are black grapes, black currants, cherries, elderberries, red cabbage and strawberries. Used in drinks, jams and sugar confectionery (4).

#### ***Curcumin/ Turmeric***

As declared in December 2010 by MC, turmeric oleoresin provides a pale yellow to bright yellow colour depending on concentration. It is oil soluble, but water- dispersible grades are available. It shows excellent heat stability but poor light stability, so is best used in applications with nontransparent packaging (5).

#### ***Chlorophylls***

Chlorophyll is the most widely distributed natural plant pigment, present in all green leafy vegetables. It is a green, oil soluble colour. Chlorophyllins are water soluble and relatively stable when exposed to heat and light. Uses include sugar confectionery and dairy products (4)

#### ***Carbon black***

Vegetable carbon black is a heat and light insoluble pigment, used primarily in sugar confectionery (4).

## **Advantages and disadvantages of using natural colours**

There are many advantages of using natural colours such as innocuity, clean label product, and extension of use meeting consumer health demands. However there are also disadvantages such as lower stability compared to synthetic colours. Need to apply higher doses to obtain a desirable colour and high cost (2).

## **Kervan applications for better results with natural colours**

Kervan Gıda uses the most suitable natural colour types by taking the colour desired in final product, stability, food matrix, pH, heat process and packaging into consideration. As an example in jellies lutein is preferred as natural yellow to beta- carotene due to its better heat, light and air stability.

We work with leaders of the natural colour manufacturers and follow latest developments and trends. The natural colours are kept in suitable conditions recommended by the supplier both in warehouse and production - in cold rooms 4- 10oC.

In summary, despite our choice of most stable natural colours type choice for our jellies, licorice and chewing gum applications and appropriate processing, accelerated and real-time shelf life studies show that products with natural colours tend to have paler colours with the time progressing through shelf life period due to its own nature.

Hope you enjoy our products and service.

Best regards,

Kervan Gıda

R&D Department

## **References**

(1) Kennedys Confection, April 2011, p.32, Naturally Does It

(2) Carinelli, L&. Acquati, C., n.d. Natural Colours Natural Extract in Food Products, <http://www.ienica.net/italyseminar/dyes/carinellipresentation.pdf>

(3) Oluwaniyi, O.O., Dosumu, O. O., Awolola G.V and Abdurraheem A.F, 2009, Nutritional Analysis and Stability Studies of Some Natural and Synthetic food Colourants, American Journal of Food Technology 4 (5): 218- 225.

(4) NATCOL - The Natural Food Colours Association, [www.natcol.org](http://www.natcol.org)

(5) MC Manufacturing Confectioner, December 2010, p.90, Natural and Nature- identical Colours in Confections.