

Enhance the natural color in meat products



Sustainable solutions
for meat and savory products

Discover which products can meet your needs in our solution matrix

| | | Pork | | Beef | | | |
|-------------------------------|--|------------|------------|----------------|------------|------------|----------------|
| | | Harimix CP | Harimix PP | Hemoglobin 92P | Harimix CP | Harimix PP | Hemoglobin 92P |
| Emusified products | Cooked sausages - eaten hot (hot dog, Vienna, Frankfurter, grill type) | | | | | | |
| | Cooked sausages - cold cuts (Lyoner, Pariser, Bologna type) | | | | | | |
| | Canned meats (luncheon meats, corned beef, meat spreads) | | | | | | |
| | Liver sausage, Liver pate | | | | | | |
| Ground meat products | Meat balls, hamburgers, fresh sausages | | | | | | |
| | Filet americain, Filet prepare, beef spreads | | | | | | |
| | Cooked salami (salami cotti, sucuk) | | | | | | |
| | Döner kebab | | | | | | |
| Injected and tumbled products | Fresh meat | | | | | | |
| | Cooked whole muscle ham | | | | | | |
| | Sandwich, reformed ham, pizza topping | | | | | | |
| | Bacon cured, smoked (restructured) and cooked | | | | | | |
| Dried and fermented products | Salami, chorizo, pepperoni type | | | | | | |
| Restructured fresh meat | Fresh, cured or cooked restructured meat and fat | | | | | | |
| Blood products | Blood sausage, black pudding, morcilla | | | | | | |
| Coated products | Nuggets, schnitzel, cordon blue, | | | | | | |
| | Spiced coatings, salami, chorizo | | | | | | |
| Fish products | Fish ball, surimi, restructured fish | | | | | | |
| Savory products | Soups, broths, hot-pots | | | | | | |
| | Sauces | | | | | | |
| | Dumpling | | | | | | |
| Nutraceuticals | Nutritionally enriched products (drinks, bars, capsules) | | | | | | |

Fresh meat comes with variation in color and can change in color over time. With QColor the natural color of fresh meat can be maintained or enhanced with a sustainable coloring solution. The QColor range behaves, unlike alternatives, to real meat in application. Whether you want a natural meat color with high stability, an intensified color with reduced nitrite products, better color homogeneity or increased contrast between lean meat and fat, QColor provides the solution.

In general, the color of fresh meat and meat products is mainly determined by the myoglobin content. This content differs markedly between meat of different species and between various meat raw materials of the same species. Consequently, the color of fresh meat and meat products will vary depending on the meat used and this may lead to undesirable heterogeneity of the color appearance of meat products. The QColor range intensifies the coloring, give a natural color, improve the perception of higher lean meat content and increase the contrast between lean meat and fat. Since hemoglobin is a functional protein, Pork Harimix proteins can be considered as natural ingredients.







COLOR IMPROVEMENT

- Natural color enhancement
- Improve organoleptic quality
- High color stability
- Behaves like meat protein during heating
- Easy applicable in powder and liquid

OTHER BENEFITS

- Improve nutritional value
- E-number free
- Clean label (Animal Protein)
- Allergen free

QColor product characteristics

| | Protein percentage Nx6.25 | Form | Rec. dosage | Taste & odor |
|--|------------------------------|--------|-------------|--------------|
| QColor Hemoglobin 92   | 92% | Powder | 0.5-1.5% | Hemoglobin |
| QColor Harimix C   | 15% | Liquid | 0.5-3% | Hemoglobin |
| QColor Harimix P   | 63% | Powder | 0.1-0.8% | Hemoglobin |



QColor hemoglobin



Hemoglobin powder is the red colored protein in blood and provides a typical flavour when used in high concentrations.

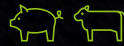
Because this protein is rich in iron, the iron is able to oxidize and establish a brown/purple color afterwards. This color can be used for inside and outside coloring of meat products. And it is most often looked for in blood sausages, morcilla and the outside coloring of bacon logs. Because of its properties this protein is often used in iron fortified products due to its high iron content and bioavailability.

APPLICATIONS

- Blood products
(Blood sausage, black pudding, morcilla)
- Injected and tumbled products
(Outside coloring of bacon)
- Nutraceuticals
(Drinks, bars, capsules)



QColor Harimix C and P



QColor Harimix is a stabilized hemoglobin available in powder and liquid form.

It provides a more intensified and natural looking color in meat products. The concentration of Harimix delivers optimal results depends on different factors, such as type of meat product, the extent of the color problem, and the use of other coloring ingredients. The main characteristics of this product are that this product provides a natural meat color with high stability, a high solubility resulting in homogeneous distribution and uniform color improvement in meat products, and easy to use. The difference between Harimix C and P is the form of the product. Harimix C is liquid, whereas Harimix P is powder and thus more concentrated. Depending on your application and processing we can advise the most suitable form. Capacity, meaning it will swell and firm in cold conditions and won't lose its functionality after a heat treatment.

APPLICATIONS

- Injected and tumbled products
(Cooked ham or shoulder)
- Ground meat products
(Hamburgers, minced meat)
- Fermented products
(Dry, fermented sausages)
- Emulsified meat products
(Emulsified products)

Research findings

Harimix increases attractiveness of various meat products by intensifying the natural meat color. Harimix is stable over time in various applications:

Cooked ham color

FIGURE 1

Pasteurized and vacuumed ham without and with Pork Harimix

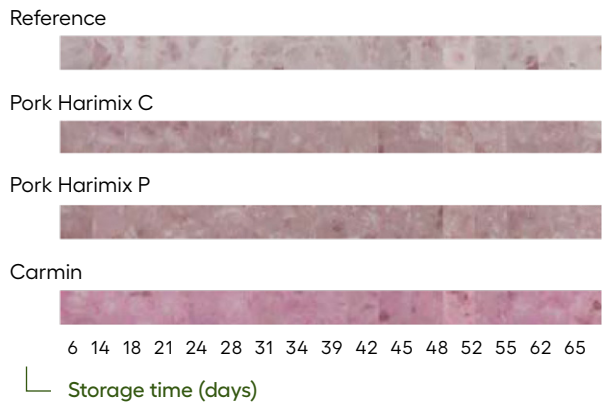
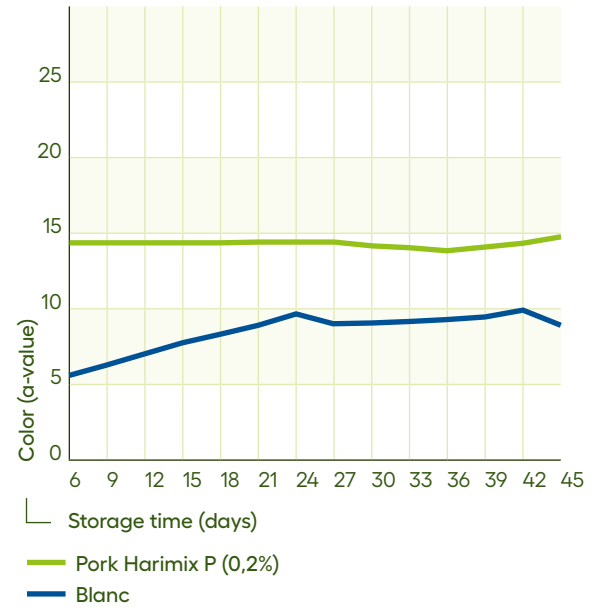
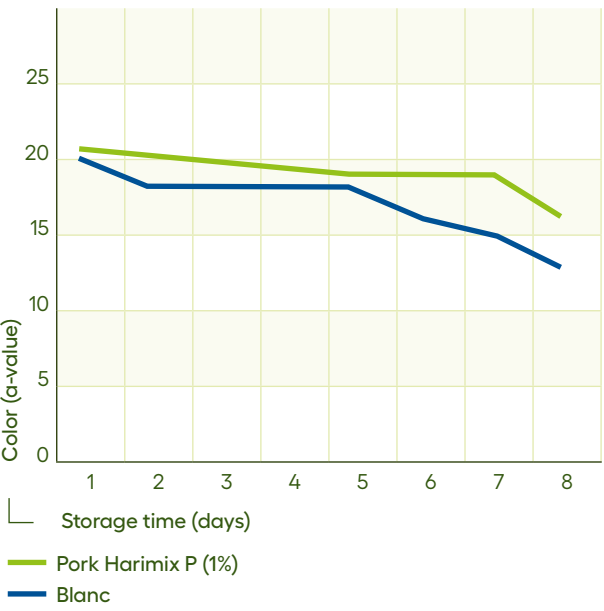


FIGURE 2

Pasteurized and vacuumd frankfurter without and with Pork Harimix.



| | Pork Harimix P | Carmine | Beet red | Fermented rice extract |
|-----------------|-------------------|----------|------------|------------------------|
| Source | Animal | Insect | Vegetable | Vegetable |
| Color type | Meat color | Red/Pink | Red purple | Pink |
| Solubility | ++ | +/- | + | ++ |
| Color intensity | ++ | + | ++ | ++ |
| Color stability | ++ | ++ | + | + |
| Labelling | See 'legislation' | E 120 | E 162 | Not approved by FDA |

Sonac Food Products champions a circular economy by transforming animal co-products into sustainable ingredients

We strongly believe in the nose to tail approach. Approximately 40% of the animal is non-edible co-products and by utilizing the complete animal we reduce waste and therewith the impact on the planet.

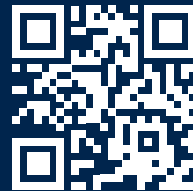
SONAC FOOD PRODUCTS OFFERS A ONE-STOP SHOP FOR OUR CUSTOMERS

- Wide range of animal derived ingredients with unique properties
- Worldwide technical support from formulation to finished product
- In-depth practical and theoretical product training by our expert team
- Ability to test product formulations yourself in our state-of-the-art Sonac Application and Research Center, SPARC*

Get in touch

Experience how our functional QRange proteins and fats can improve your recipes, and how to use them optimally at our Application Center in the Netherlands. Book your SPARC* session.

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Our unique size and scale allow us to help make entire industries less wasteful and more sustainable, while delivering the quality, innovative ingredients our customers expect. Our processing plants and sales offices in Australia, Belgium, China, Germany, Italy, The Netherlands (HQ), Poland, Singapore and the United States serve customers around the world.