



EXBERRY® Coloring Foods

Plant-based colors for plant-based cuts of meat

GROWING COLORS

EXBERRY®

Create **highly realistic alternatives** to steak and roast beef and other meat cuts

74.5%

of consumers worldwide consider it important that the appearance of meat substitutes is the same as meat?

Why color matters in meat cuts alternatives

There are many plant-based meat products on the market that taste just like the real thing. Recreating the texture of whole cuts – such as steaks and roast beef – has proved challenging compared to ground meat, but manufacturers have recently pioneered innovative new solutions.

Research shows that color also plays a critical role in determining product acceptance and influencing purchase decisions.¹ If plant-based products fail to replicate the appearance of genuine meat cuts, consumers will not expect them to provide a realistic, meat-like sensory experience.

Features

- Highly realistic color shades
- Clear and clean label declarations
- Guaranteed supplies all year round
- Fully traceable crops
- Sustainable production methods
- Exceptional customer support

Modern consumers want clean labels

Plant-based meat products often feature ingredients that fail to match up to their target audience's desire for clean and simple labels. A 2021 survey of vegans, vegetarians, flexitarians, and omnivores, for example, found that meat-reducer and meat-avoider consumers pay more attention to clean labels than omnivores.³

Manufacturers should therefore use coloring solutions that consumers will trust.



Future-proof colors from EXBERRY®

EXBERRY® Coloring Foods are created from edible fruits, vegetables, and plants using physical processing methods such as chopping and boiling. Based on the concept of coloring food with food, they provide perfect synergy with the plant-based category and support completely clean and clear label declarations.

In the EU and many other parts of the world, EXBERRY® Coloring Foods can be listed simply as “concentrate of [name of raw material]”

- ✓ Well-known ingredients
- ✓ No E-numbers
- ✓ Vegan
- ✓ Halal
- ✓ Kosher
- ✓ Non-GMO

EXBERRY® Shade	Raw material	Heat stability	pH dependant	May need ascorbic acid	Available as powder
EXBERRY® Shade Vivid Orange - OS	Pepper	✓	✗	✓	✗
EXBERRY® Shade Brilliant Orange	Pepper, carrot	✓	✗	✓*	✓
EXBERRY® Shade Red	Radish, carrot	✓	✓	✗	✓
EXBERRY® Shade Vivid Red	Carrot, blackcurrant	✓	✓	✗	✓
EXBERRY® Shade Fiesta Pink	Beetroot, carrot	(✓)**	✗	✓*	✓
EXBERRY® Shade Brown	Caramelized carrot, carrot	✓	✗	✗	✗

* Depending on application, processing and packaging properties
 ** Heat sensitive, performance depending on process conditions



Steak, cooked

1.00% EXBERRY® Shade Brilliant Orange
 2.35% EXBERRY® Shade Red



Roast Beef

0.95% EXBERRY® Shade Red
 0.02% EXBERRY® Shade Brilliant Orange
 0.43% EXBERRY® Shade Yellow - Cloudy (Fat)

Technical tips

Plant-based colors have varying characteristics including color hues and temperature and pH sensitivities. Selecting the right options will depend on the desired functionality.

Many pink, red, and purple shades contain anthocyanin pigments, which are influenced by the pH value of the application. To achieve the desired shade, it is necessary to understand the pH of your base during processing, cooking, and in the final product. Beetroot concentrates can provide a pH-independent source of pinks, but their betanin pigments are sensitive to heat. For maximum color retention, add ascorbic acid or reduce cooking time or temperature.

The protein source can also significantly affect the base color, which may influence the choice of EXBERRY® product and required dosage.

GNT provides full support throughout the product development process to ensure you identify the optimal solution for your project requirements.

Tailor-made shades for plant-based cuts of meats

EXBERRY® can be used to create highly realistic alternatives to steak and roast beef. By utilizing concentrates from raw materials such as radish, carrot, and beetroot, EXBERRY® can deliver intense brown-red hues to accurately mimic the appearance of meat.

¹ Ryu, K.K. et al. 'Applications of various natural pigments to a plant-based meat analog' LWT (2023) | ² FMCG Gurus 'Custom Survey - Global and Regional - Meat & Plant-Based Protein' (2022) | ³ Noguero, A.T. et al. 'Green or clean? Perception of clean label plant-based products by omnivorous, vegan, vegetarian and flexitarian consumers' Food Research International (2021) | ⁴ FMCG Gurus 'Custom Survey - Global and Regional - Clean Label & Naturalness' (2023)



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