



# EXBERRY® Coloring Foods

Plant-based colors for plant-based cheese

GROWING COLORS

**EXBERRY®**

Colors from fruits, vegetables, and plants deliver **spectacular shades** in **clean-label cheese alternatives**

84%

of consumers worldwide say the **color and appearance** of plant-based products is **important.**<sup>4</sup>

Why color matters in plant-based cheese

The plant-based cheese market continues to grow but has yet to capture the interest and acceptance of the mainstream global consumer base.

Color can play an important role in determining the popularity of cheese products. It sets initial expectations on quality and can influence perception of the flavor.<sup>1</sup> For example, orange cheddar is sometimes perceived to be richer than yellow cheddar even though the fat content and flavor are identical.<sup>2</sup>

A 2023 study found that consumers want plant-based cheese to more closely mimic the sensory attributes – including coloration – of dairy cheese.<sup>3</sup>

## 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

Beyond sensory considerations, it is also important that plant-based cheese is seen to be a safe and healthy alternative to dairy cheese. Research carried out in 2022 found that, among those who do not consume plant-based cheese, a quarter feel it has too many unfamiliar ingredients on the label and seems very processed.<sup>5</sup>

The use of well-known, trusted coloring ingredients can help to create a more positive perception of how cheese alternatives are made.



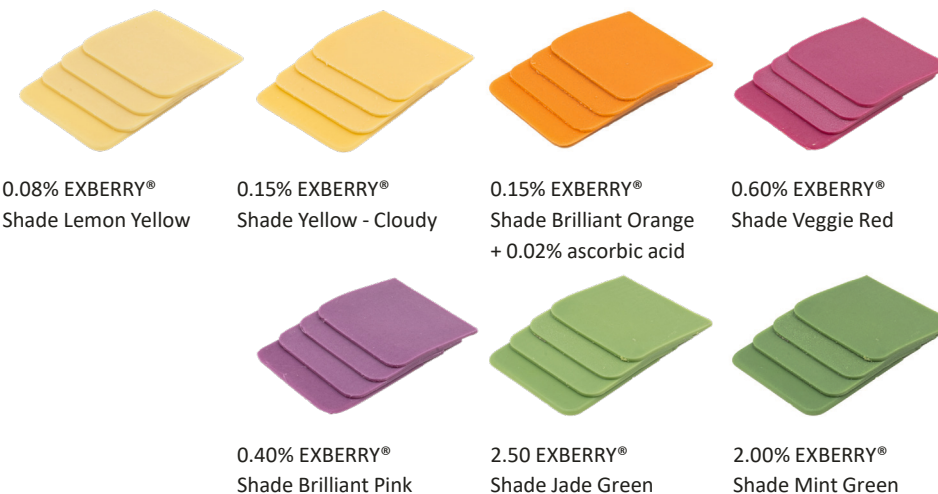
EXBERRY® Shade	Raw material	Typical dosage [in%]
EXBERRY® Shade Lemon Yellow	Safflower, lemon	0.08 - 0.30
EXBERRY® Shade Yellow - Cloudy	Carrot, pumpkin	0.15 - 0.30
EXBERRY® Shade Brilliant Orange	Pepper, carrot	0.15 - 0.30
EXBERRY® Shade Veggie Red	Radish, carrot	0.15 - 1.00
EXBERRY® Shade Brilliant Pink	Sweet potato, carrot	0.15 - 0.50
EXBERRY® Shade Mint Green	Spirulina, safflower	1.00 - 2.00
EXBERRY® Shade Jade Green	Spirulina, turmeric	1.00 - 2.00

## 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 (name of raw materials).”

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



## 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.

EXBERRY® concentrates made from orange carrots, pumpkins, and paprika contain carotenoid pigments that can shift from orange to a yellow hue in the presence of fat. When using these colors, it is recommended to include an antioxidant to support performance.

Plant-based cheese products are created from a variety of materials that can significantly affect the base color. This can 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 cheese

EXBERRY® can be used to create cheese alternatives that look just like the real thing. By utilizing concentrates from raw materials such as carrot, paprika, and turmeric, EXBERRY® can be used to deliver yellow and orange shades that accurately mimic different dairy cheese products.

## EXBERRY®: Plant-based colors you can trust

EXBERRY® is the global market leader in Coloring Foods. We offer a full spectrum of shades in different formats to suit individual project requirements, including liquids, powders, and organic.

We have a vertical supply chain that gives us complete oversight of the non-GMO fruits, vegetables, and plants we use to make our Coloring Foods. This enables us to maintain our quality standards and guarantee year-round availability for all customers.

<sup>1</sup> Wadhvani, R. & McMahon, D.J. 'Color of low-fat cheese influences flavor perception and consumer liking' *Journal of Dairy Science* (2012) | <sup>2</sup> Tunick, M.H. 'The Science of Cheese' (2007) | <sup>3</sup> Waehrens, S.S. et al. 'Consumers' sensory-based cognitions of currently available and ideal plant-based food alternatives: A survey in Western, Central and Northern Europe' *Food Quality and Preference* (2023) | <sup>4</sup> FMCG Gurus 'Custom Survey - Global and Regional - Meat & Plant-Based Protein' (2022) | <sup>5</sup> FMCG Gurus 'Custom Survey - Global and Regional - Meat & Plant-Based Protein' (2022) | <sup>6</sup> FMCG Gurus 'Custom Survey - Global and Regional - Clean Label & Naturalness' (2023)



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