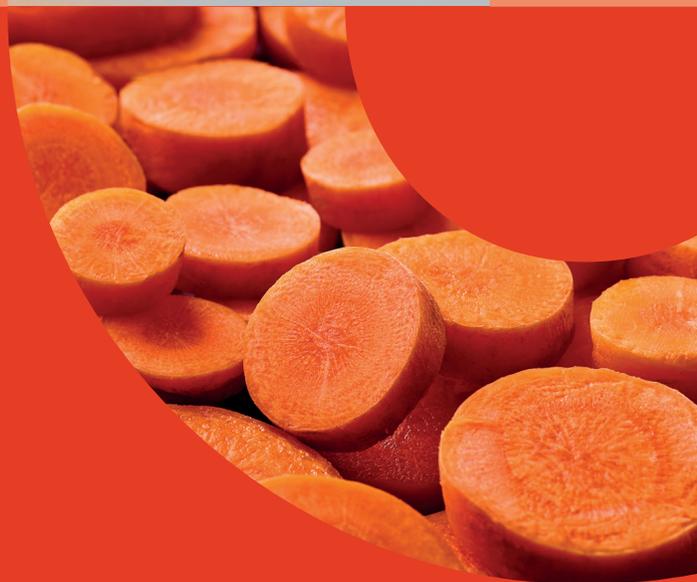




Converting from artificial to *natural* colors

How to make the change
without making a difference



The US is on a journey towards natural colors by the end of 2026



Don't panic – we are here to help make the transition easy

On April 22, 2025, the HHS and FDA jointly announced their intent to phase out the use of petroleum-based synthetic food and beverage dyes in the US food supply by the end of 2026.

The deadline is tight. Although phasing out petroleum-based synthetic dyes has been driven by consumer demand for more natural ingredients, food and beverage companies still need to create vibrant, visually appealing products that perform at least as well as the artificial colors they are replacing.

US food and beverage companies need a natural color partner with years of expertise in formulating alternatives that work in the factory and on store shelves.

This is where Oterra's 150-plus years of expertise in natural colors is invaluable.

Oterra has a broad natural color portfolio. Our dedicated team will work hand in hand with you to find and implement the ideal natural color solution for you, offering opportunities such as onsite partner work, analytical testing, pilot runs, innovation and classroom-style sessions and learnings at our US hub.

No one knows color like nature. And no one knows *natural* colors like us

Ask Oterra how to convert to natural ahead of the December 2026 deadline.

[Contact us](#)

Consumer concerns

The Natural Colors Association (NATCOL) released a study in May 2024* that looked at US consumer perceptions of natural food colors.

The appearance of food and beverage ranked in the top five among consumers.

While the specific awareness of color was lower compared to other components such as taste, price, protein content, and sugar content, there was a significant preference for natural colors: 7 out of 10 consumers accepted natural coloring in their food and beverage and expressed positive connotations like 'healthy', 'safe', 'good', 'sustainable' and 'appealing' in products containing them.

* NATCOL US Consumer Food and Beverage Color Attitudes Study, 2024



Converting *red* from Red 40

	Powder beverages	Frostings	Gummies	Hard panned candy	Icing	Sponge cake	Snack seasoning
Artificial color	 FD&C Red 40 Lake	 FD&C Red 40 Lake	 FD&C Red 40	 FD&C Red 40	 FD&C Red 40	 FD&C Red 40	 FD&C Red 40
Natural color	 Sweet potato	 Red beet	 Sweet potato	 Sweet potato	 Sweet potato + black carrot + paprika	 Sweet potato	 Sweet potato
Benefits of natural raw material*	<ul style="list-style-type: none"> Bold Highly concentrated Easy to use No dephasing Uniform coloring Good plating 	<ul style="list-style-type: none"> Magenta shades Suitable for neutral pH products Liquid form Cost efficient 	<ul style="list-style-type: none"> Bright blueish red to red shades Heat, light, low pH and oxidation stable Flavor neutral Ambient storage conditions possible 	<ul style="list-style-type: none"> Unique bright, red shades Excellent for panned products Flavor neutral Heat, light, low pH and oxidation stable Ambient storage conditions possible 	<ul style="list-style-type: none"> Pinkish red shade Vegetable based alternative to carmine Stable to heat & light Liquid form; powders available 	<ul style="list-style-type: none"> Unique pinkish-red shade Heat, light, and oxidation stable Minimally processed 	<ul style="list-style-type: none"> Strong, intense color Uniform coloring/plating No dephasing on colored powder Easy to use

Converting *pink* from Red 3

	Gummies	Hard panned candy	Icing	Compressed tablets	Sprinkles
Artificial color	 FD&C Red 3	 FD&C Red 3	 FD&C Red 3	 FD&C Red 3	 FD&C Red 3
Natural color	 Sweet potato ¹	 Sweet potato	 Hansen sweet potato™	 Red beet	 Red beet
Benefits of natural raw material*	<ul style="list-style-type: none"> Unique red and pink shades Liquid form; powder available Heat and light stable 	<ul style="list-style-type: none"> Very stable to heat, light, low pH and oxidation Minimally processed/ coloring foods Liquid color 	<ul style="list-style-type: none"> Unique red and pink shades High strength powder, allowing for lower dosage Very stable to heat, light, low pH, and oxidation 	<ul style="list-style-type: none"> Bluish-pink shades Plating with evenly distributed visible particles No pH impact Cost effective Ambient storage 	<ul style="list-style-type: none"> Cost efficient Suitable for neutral pH products No pH impact Ambient storage

¹ Contains Hansen sweet potato™ - Oterra's exclusive variety providing vivid red shades with unparalleled color strength and stability

Converting *yellow* from Yellow 5

	Powder beverages	Frozen desserts	Gummies	Hard panned candy	Icing	Sponge cake	Cereals
Artificial color	 FD&C Yellow 5 Lake	 FD&C Yellow 5	 FD&C Yellow 5	 FD&C Yellow 5	 FD&C Yellow 5	 FD&C Yellow 5	 FD&C Yellow 5
Natural color	 Fungus Riboflavin	 Orange carrot	 Turmeric	 Turmeric	 Turmeric	 Beta carotene	 Turmeric
Benefits of natural raw material*	Vibrant shade Heat, low pH and oxidation stable Cost efficient High strength color	Heat, low pH and light stable Flavor neutral formulation Minimally processed/ coloring foods Contains only natural ingredients	Improved stability due to encapsulation Liquid formulation with high coloring ability	Light, heat and oxidation stable Encapsulated for stability High coloring ability Emulsifier free Liquid form - ready to use	Vibrant shades Heat and oxidation stable Encapsulated for stability High strength powder	Bright yellow shade Heat and light stable Palm oil free Powder or liquid form Easy to dose	Bright yellow shades Heat, low pH and oxidation stable Encapsulated for stability High coloring ability Liquid form

Converting *orange* from Yellow 6

	Hard candy	Frostings	Gummies	Hard panned candy	Icing	Sponge cake	Cereals
Artificial color	 FD&C Yellow 6	 FD&C Yellow 6	 FD&C Yellow 6	 FD&C Yellow 6	 FD&C Yellow 6	 FD&C Yellow 6	 FD&C Yellow 6
Natural color	 Orange carrot	 Annatto	 Paprika	 Beta carotene	 Paprika	 Paprika	 Paprika
Benefits of natural raw material*	Heat, low pH and light stable Bright shades independent of pH Minimally processed/ coloring foods Contains only natural ingredients	Heat and light stable Liquid form Cost efficient	Heat, low pH, and light stable Acid-proof formulation Transparent appearance in gummies Cost efficient	Bright shades Heat, low pH and light stable Emulsifier free Excellent for panned candies	Heat and light stable Powder form Excellent plating abilities in bakery mixes	Bright shades Heat, low pH, light and oxidation stable Encapsulated for stability High strength Powder form suitable for bakery	Bright shades Encapsulated for high stability Heat, low pH, light and oxidation stable High strength powder

Converting *blue* from Blue 1 & Blue 2

	Snack seasoning	Frostings	Gummies	Hard panned candy	Icing	Ice cream	Ice cream
Artificial color	 FD&C Blue 1 Lake	 FD&C Blue 1 Lake	 FD&C Blue 1	 FD&C Blue 1	 FD&C Blue 1	 FD&C Blue 1	 FD&C Blue 2
Natural color	 Spirulina	 Spirulina	 Spirulina	 Spirulina	 Spirulina	 Spirulina	 Jagua fruit
Benefits of natural raw material*	Strong, intense color Uniform coloring/plating No dephasing on colored powder Easy to use	Bright blue shades Light and oxidation stable Liquid form	Bright blue shade especially well suited for gummies Light and oxidation stable Liquid form	Bright blue shades Ambient storage possible High coloring content for lower application dosage Powder form Minimally processed/coloring foods	Bright blue shades Minimally processed/coloring foods	Bright blue shades Light stable Ready to use liquid form	Bright indigo blue shades pH, light and heat stable Powder available Ambient storage

Converting *green* from artificial blends

	Snack seasoning	Frostings	Gummies	Hard candy	Icing	Frozen desserts	Fat fillings
Artificial color	 FD&C Yellow 5 Lake + FD&C Blue 1 Lake	 FD&C Yellow 5 Lake + FD&C Blue 1 Lake	 FD&C Yellow 5 + FD&C Blue 1	 FD&C Yellow 5 + FD&C Blue 1	 FD&C Yellow 5 + FD&C Blue 1	 FD&C Yellow 5 + FD&C Blue 1	 FD&C Yellow 5 + FD&C Blue 1
Natural color	 Spirulina + turmeric	 Spirulina + turmeric	 Spirulina + turmeric	 Spirulina + turmeric	 Spirulina + turmeric	 Spirulina + turmeric	 Spirulina + turmeric
Benefits of natural raw material*	Strong, intense color Uniform coloring/plating No dephasing on colored powder Easy to use Ambient storage	Range of green shades possible Stable to oxidation Liquid and powder forms available	Range of green shades possible Stable to oxidation	Range of green shades possible Stable to oxidation & heat	Heat and light stable Powder form Excellent plating abilities in bakery mixes	Range of green shades possible Stable to oxidation	Oxidation stable Easy to disperse in oil/fat applications

* Benefits may vary according to the product used.

Useful tips to ensure a *smooth* conversion

Our team of experts in applications, innovation and regulatory affairs have an extensive experience in helping our customers. Whatever your challenges, we have solved them before and we are here for you all the way - let us help make natural colors easy.

Seven considerations when working with natural colors



1. Regulatory compliance

Our Regulatory Affairs team is here to assist in labeling and documentation needs



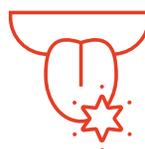
2. Macro ingredients

Our experts can advise pigments that do not negatively interact with macro ingredients such as sugars, sweeteners, proteins and fats



3. Product pH

Color functionality can be affected by pH, we can advise the best solutions to avoid color shifts and precipitation



4. Flavor

Avoid unwanted reactions between flavor and color systems with our expert knowledge



5. Fortification

Vitamins and minerals can degrade, or stabilize pigments, we'll ensure you get the right ones!



6. Production processes

With over 150 years of experience, we can offer the correct pigments to resist the worst of the shear, temperatures and pressures from your process



7. Packaging

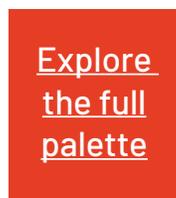
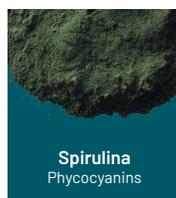
Our applications team are here to help avoid pigments staining your packaging

What
about
supply?

Secure supply chain

You can rely on Oterra for a consistent supply of safe, reliable natural colors thanks to our global sourcing and close contact to the farmers that grow the raw materials.

Some of the popular raw materials sourced from nature



Together
towards
natural
Contact us