

December 2012



Nutralliance

A large, vibrant sunflower field under a bright blue sky with soft, white clouds. The sunflowers are in various stages of bloom, with bright yellow petals and dark brown centers. The image is slightly blurred in the background, creating a sense of depth.

Nutralliance Natural Non-GMO Vitamin E

**A consistent alternative
in an unpredictable market**



Around the globe, natural vitamin E prices have skyrocketed while supply has plummeted, giving manufacturers few options for material sourcing. The current vitamin E shortage follows the segment's decades-old saga of a supply chain too heavily reliant on an inconsistent ingredient: the soybean.

Natural vitamin E prices have jumped by 30 to 35 percent since 2010, according to Frost & Sullivan's Chemicals, Materials & Food research division. As a result, 2012 recorded prices ranging from \$70 to \$110 per kilogram; the market research firm expects even higher costs in 2013, with non-GMO forms commanding a premium price tag.

To understand the current natural vitamin E famine, it's crucial to analyze the raw material's supply process.

Currently, soy-derived vitamin E relies on the production of soybean oil, although vitamin E does not use the oil itself. Soybeans are crushed to create soybean oil, which is refined into its edible state. The crushed byproduct—called deodorized distillate (DOD)—is then used to extract various forms of natural vitamin E.

In essence, natural vitamin E extraction relies on soybean oil production, with approximately 20 acres of soybeans generating one kilogram of oil. And while soybeans or soybean oil themselves aren't in any significant shortage, the DOD is the main culprit for the current crisis in the global natural vitamin E market.

Several key factors relate to the fluctuating supply of DOD, which can be traced back to the 1990s with the trans fat scare. When FDA required manufacturers to list trans fats on nutrition labels, oil sales shrunk, causing soybean oil crushing to decrease. In addition, a large portion of the DOD is being exported

to Europe for biofuels. The DOD available for supplement production is already scant, but unruly weather has further hurt the soybean industry, with the current Midwestern drought causing considerable harm.

As a result, the world wide demand for DOD is high, while supply is low, causing increased prices and a volatile market. What the natural vitamin E marketplace needed was an alternative—one with consistent pricing and availability.

To address the supply-demand gap and its consequently high prices, some companies are blending natural vitamin E with other cheaper ingredients. Cutting the vitamin E with antioxidants such as rosemary extracts and ascorbyl palmitate reduces the overall price—and natural vitamin E concentration—of the product.

*Frost & Sullivan,
Chemicals, Materials & Food Research*



Nutralliance Natural Non-GMO Vitamin E

While the natural vitamin E market has been dominated by the soy industry, there is another option. Nutralliance's line of sunflower-sourced vitamin E products offer high quality while alleviating significant supply chain challenges.

Nutralliance has partnered with Advanced Organic Materials to source sunflowers from Argentina. The sunflower gives the natural vitamin E market a sustainable alternative; pricing and availability have proven to be consistent in recent decades—a welcome change for vitamin E manufacturers. With a massive sunflower supply, there are no concerns of shortage, nor concerns of artificially high prices.

With three product lines—Sun E, Tocomix and Sunvitol—Nutralliance offers sunflower-derived oils and powders and sunflower/soy combination oils and powders. These product types are identical to current marketplace options.

Sunflower-sourced vitamin E provides a consistent alternative in a soy-dependent market.

What Consumers Want: Non-GMO and Allergy-Free Formulations

Genetically engineered (GE) crops first made headlines in the 1990s, and the plants of the future have been raising questions ever since. Currently, 61 countries require genetically modified organism (GMO) labeling, and some states are fighting to increase awareness, most notably California. Although the state's GMO-labeling Proposition 37 failed, the initiative gave the non-GMO movement significant momentum.

Consumers want choices, and they want to know what's in their food and dietary supplements. GMO labeling may not be required, but consumers understand the connotation. As a result, they are requesting—and demanding—non-GMO products. Forty-seven percent of Californians voted to mandate labeling; while this may not have been the



majority of voters, it is still a significantly sized demographic that will seek out non-GMO goods.

The natural products industry can't turn a blind eye to the trend. With non-GMO foods and beverages available, customers will look for non-GMO dietary supplements. But in the soy-dominated natural vitamin E marketplace, those choices may be hard to find.

In 2012, 93 percent of soybeans planted in the United States were GE, compared to 54 percent in 2000, according to [the US Department of Agriculture](#).

As a result, most vitamin E comes from GE soy. Manufacturers interested in identity preserved (IP) ingredients can turn to all three of Nutralliance's lines: Sun E, Tocomix and Sunvitol. Tocomix and Sunvitol, which are both soy/sunflower combination ingredients, can be delivered using non-GM soy.

Sourcing from sunflowers also supports Nutralliance's non-GMO portfolio, as sunflowers have not been genetically altered. Consequently, the company's Sun E 900™, a d-alpha tocopherol oil extracted from sunflowers, is inherently non-GM. Sunflower vitamin E also complements Nutralliance's Tocomix and Sunvitol lines, creating six non-GM options for environmentally aware manufacturers.

Just as many consumers call for accountability in the dietary supplement industry, many are concerned with the prevalence of soy and its food allergy implications.

Across the United States, food allergies are on the rise. More than 15 million Americans have food allergies, and recent data in [Pediatrics](#) suggests they affect 8 percent of children. Among the most common food allergies is soy; the ingredient is ubiquitous in the food industry, and similarly so in the natural vitamin E marketplace.

However, Nutralliance’s Sun E 900™ is completely sunflower-based, making it a soy-free choice. Formulations with Sun E can be included in allergen-free products, boosting desirability for this growing segment.



Leveling Out a Fluctuating Market

This new supply chain for the natural vitamin E marketplace will deliver lower prices and increased availability to manufacturers. The vitamin E segment’s volatile supply—and its equally inconsistent pricing—is no longer the only option.

Nutralliance’s sunflower-sourced natural vitamin E products offer alternatives identical in formulation, but with added return. With the allergy-free Sun E 900™ and six non-GMO formats, manufacturers can take advantage

of high-quality, high-value natural vitamin E without depending on a fluctuating soy market.

Sun E 900™

Derived from sunflowers, this natural vitamin E oil is non-GMO and allergy-free. The d-alpha tocopherol oil comes in a 900 IU concentration, with an amber color and a taste and smell characteristic of vegetable oil. Used extensively in softgel capsules, this natural vitamin E has a bioavailability twice as potent as synthetic vitamin E, according to the National Academy of Science. Sun E 900™ is soluble in oils and fats, but insoluble in water.

Sun E 900™ Product Characteristics

COMPOSITION	
Total Tocopherols (%):	Min. 66
d-α-tocopherol:	Min. 88*
d-β+γ-tocopherol:	4 - 10
d-δ-tocopherol:	1 - 3
CHARACTERISTICS	
Vitamin E (IU):	Min. 900
d-α-tocopherol (%):	Min. 60.4
Sunflower Oil (%):	Max. 30
Gardner Color:	Max. 12
Relative Density (20/20°C):	0.92 - 0.96
Acidity (ml 0.1N NaOH/g):	Max. 1.0
Specific Rotation:	Min. +24
Organic Volatile Impurities:	Passes USP 32, Method IV

*As percentage of total tocopherols

Shelf Life: The product shelf life is at least 36 months from manufacturing date.

Tocomix

Produced by Advanced Organic Materials in Argentina, Tocomix oils offer a 100-percent natural source of antioxidants. When added to food products, these mixed tocopherol products extend shelf life and reduce rancidity in fats and oils. The oils are available in both regular (Tocomix 50 and 70) and non-GMO (Tocomix 50 IP and 70 IP) forms. A clear, reddish-brown liquid, Tocomix is easily incorporated into products without imparting flavor, color or odor. The GRAS ingredient features a minimum 80-percent non-alpha tocopherol for Tocomix 70, and not less than 40 percent for Tocomix 50, with naturally occurring ratios of d-alpha, beta, gamma and delta tocopherols.

Tocomix 50 Product Characteristics

COMPOSITION	
Total Tocopherols (%):	Min. 50
d- α -tocopherol:	1 - 15
d- β + γ -tocopherol:	25 - 39
d- δ -tocopherol:	6 - 20
Non-alpha Tocopherols (%):	Min. 40
CHARACTERISTICS	
Viscosity at 60°C (cP):	50 - 150
Acidity (ml 0.1N NaOH/g):	Max. 1.0
Peroxide Value (meq act. Oxygen/Kg):	Max. 2.0
Specific Rotation:	Min. +20
Relative Density (20/20°C):	0.92 - 0.96
Gardner Color:	Max. 14
Organic Volatile Impurities:	Passes USP 32, Method IV

Shelf Life: The product shelf life is at least 36 months from manufacturing date.

Tocomix 70 Product Characteristics

COMPOSITION	
Total Tocopherols (%):	Min. 70
d- α -tocopherol:	6 - 17
d- β + γ -tocopherol:	38 - 48
d- δ -tocopherol:	13 - 22
Non-alpha Tocopherols (%):	Min. 56
CHARACTERISTICS	
Viscosity at 60°C (cP):	120 - 210
Acidity (ml 0.1N NaOH/g):	Max. 0.5
Peroxide Value (meq act. Oxygen/Kg):	Max. 2.0
Specific Rotation:	Min. +20
Relative Density (20/20°C):	0.92 - 0.96
Gardner Color:	Max. 14
Organic Volatile Impurities:	Passes USP 32, Method IV

Shelf Life: The product shelf life is at least 36 months from manufacturing date.





Sunvitol E500IP

Sunvitol™ E500IP is a GMO-free water dispersible Vitamin E powder which contains NLT 500 IU total tocopherols derived from edible sunflower oil and homogenized with silicon dioxide and cellulose.

Sunvitol

The Sunvitol line features seven high-quality powders, including the brand new Sunvitol E500 IP Powder. This non-GMO vitamin E powder contains NLT 500 IU total tocopherols derived from sunflowers. The line's other powders include Sunvitol E700SD, E700NP, MT350, MT300, MT350IP and MT300IP. Sunvitol features natural vitamin E and mixed tocopherol powders to offer soybean-sourced, high-potency powders in addition to IP products derived from sunflowers.

Sunvitol E500IP Powder Product Characteristics

Appearance:	Fine Granular Powder
Color:	Beige to Tan
Odor:	Bland
Taste:	Bland
Source:	Sunflower Oil
Carrier:	Silicon Dioxide and Cellulose
Solvent Used:	Water
Tocopherols:	NLT 500 IU/g
Loss on Drying:	NMT 5.0%

Packaging: Material is packaged in 25 kilogram cartons with polyethylene liners.

Shelf Life: The product shelf life is at least 24 months from manufacturing date.



Nutralliance

To request samples or to purchase any of Nutralliance's exceptional products, please contact our customer service department. We're here to assist you with your raw material requirements.

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