



Natural Dehydrated Ingredients

Egg Yolk Pigmentation:
It's Only Natural!

FEED DIVISION



Demand for Healthier Eggs

Consumers value eggs that have a rich, deep golden yolk color. These eggs are perceived as laid by hens in a natural environment, fed on a healthier and natural diet, without synthetic ingredients.



It's All About the Color

Yolk color has become a differentiating parameter for egg quality and layer health, and a way to distinguish between brands. Yolks with enhanced color don't have to be limited to specialty eggs. Still, the ingredients in standard feed do not contribute much to yolk pigment, and many yolk pigmentation additives are not natural.

Synthetic vs. Natural: Know your additive

Synthetic colors added to feed for yolk pigmentation can gain the desired effect at a relatively low cost. Consumers may not be aware that the source of color is not natural. Distinguishing between egg yolks that are "naturally enhanced" ensures transparency, and rewards the growers that offer a healthier and natural alternative.

Natural feed mixes, such as with marigold and alfalfa, are often expensive and complicated to produce, and don't ensure the desired stable result.





Sweet Paprika: Nature's Ingredient

Sweet paprika is a natural source of carotenoids, the coloring element used for yolk pigmentation. Egg yolks enhanced with paprika added to feed have a richer, deeper gold or orange color. While synthetic additives have no nutritional value, paprika is also rich in protein, fibers, minerals, Vitamin C and beta carotene.

Good for the layers, good for the farmers, good for the consumers.

Adding paprika to feed in small amounts is known to affect yolk color, but there are some practical considerations:

- **Source** – Questionable sources in the global paprika market raise the fear of adding contaminated ingredients into feed mills.
- **Cost** – Paprika is considered expensive per given weight of feed, compared to synthetic additives.
- **Consumption** – In other parts of the world, paprika is produced on the same lines as chilies. This may have the effect of making the paprika too hot, which in turn may reduce the amount of feed consumed by the layers, and decrease productivity.

Why SDA?

With over three decades of experience producing natural dehydrated ingredients for multiple purposes, SDA produces sweet paprika with unmatched quality in large quantities for egg yolk pigmentation, feeding millions of layers around the globe daily. SDA meets the strictest standards in its products for both human consumption and feed. Available all year round, SDA's paprika is a healthy additive that is easy to handle and store. It can be used as-is in the feed mill, with no need for prior preparation or treatment.

- **Reliable supply:** Available all year round in any quantity
- **Cost-effective:** Requires only a small quantity
- **Tailor-made solutions:** Get exactly what you need; SDA can meet any specific customer requirements (for example particle size, special processing and sieving requests)
- **Competitive edge:** Distinguish your brand with added value for your eggs

Nutritional values for Sweet Paprika

Nutrient	Units	Value per 100 grams
Proximates		
Energy	kcal	289
Protein	g	14.76
Total lipid (fat)	g	12.95
Fatty acids, total saturated	g	2.14
Fatty acids, total trans	g	0.00
Cholesterol	mg	0
Carbohydrate, by difference	g	51.66

Nutrient	Units	Value per 100 grams
Fiber, total dietary	g	30.4
Sugars, total	g	7.27
Minerals		
Calcium, Ca	mg	1468
Sodium, Na	mg	452
Vitamins		
Vitamin C, total ascorbic acid	mg	122.0
Beta-Carotene	mcg	27,679



Research

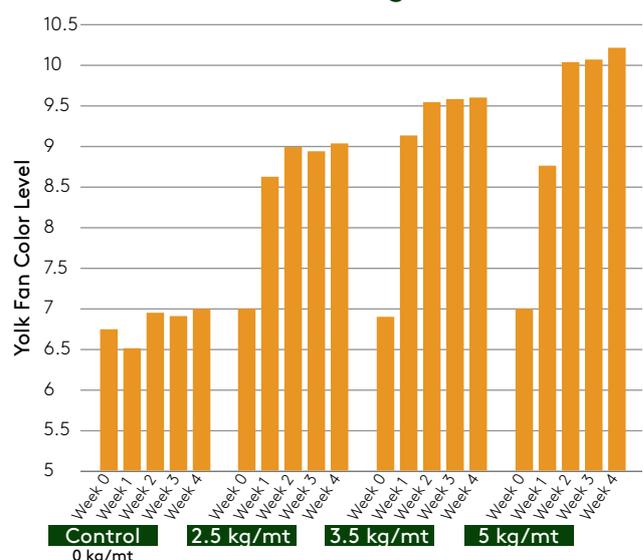
SDA has close ties with leading agricultural research institutes in Israel; the Agricultural Research Organization (ARO)-Volcani Center, and the Hebrew University Faculty of Agriculture, Food, and Environment.

Validation of field-proven efficacy: SDA paprika

The farmer's satisfaction is our top priority. That's why nothing is more important than the already field-proven efficacy of SDA paprika for millions of layers around the world. In addition, SDA also recently cooperated with the Hebrew University Faculty of Agriculture to provide scientific validation of the effect of varying concentrations of SDA paprika in feed on egg yolk pigmentation. We followed the strictest statistical protocols, knowing that the farmers on the other end deserve nothing less than our strongest commitment to our product's performance.

Results after one month according to the industry-accepted yolk fan showed that paprika in changing concentrations has a significant effect on the yolk color score of eggs for human consumption and pointed to a positive correlation between SDA paprika concentration in the feed ration and yolk score.

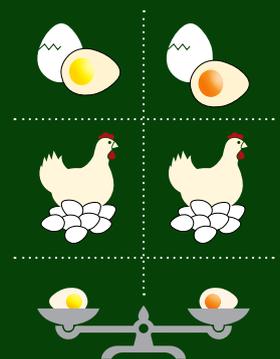
Influence of 100A Paprika on Yolk Color According to Yolk Fan



The scientific validation verified:

Egg-Laying Comparison

- The number of defective eggs was negligible, with no difference in frequency between the treatment groups.
- There are no differences in the average number of eggs per hen per week.
- There are no differences in the weight of the eggs between treatment groups.





About SDA

Established in 1987 by farmers in Kibbutz Sde Eliyahu, located in the Beit Shean valley, SDA is a pioneer of organic agriculture in Israel and a key provider of natural dehydrated ingredients around the world.

Quality control and standards

All SDA products meet the strictest standards to ensure the safety of raw materials in the food chain, in compliance with international standards for food safety and authorized for ISO-9001 and ISO 22000. Growing fields are under the certification of EuroGap. Organic plants and growers are certified to European organic standards, NOP and Israeli organic standards. Certification is by Agrior Ltd, under accreditations of USDA, IFOAM-IOAS, and Israeli PPIS

From farmers to farmers

SDA follows a “seed to ship” philosophy and is directly responsible for the entire product cycle, maintaining full end-to-end control of the work process. Hands-on involvement from soil preparation, through sowing, growing, harvesting, and the process of cleaning, dehydrating and sieving, ensures a synchronized and reliable process that produces standardized, consistent high-quality natural dehydrated ingredients.

As farmers – nothing gives us more pleasure and pride than to serve other farmers with high-quality natural, safe and healthy products, with the crucial element of stability that only a fellow farmer can appreciate. With farms in the north and south of Israel that enable the flexibility of year-round growing seasons under optimal climatic conditions, SDA is the farmers’ choice for every kind of natural dehydrated ingredient for feed.