



LUTE-GEN[®]

DEVELOPED WITH A VISION
FOR YOUR FUTURE

 HEALTHY AGEING

 EYE HEALTH

 COGNITIVE HEALTH




Lute-gen[®]

LUTEIN (FREE & ESTER)


Zea-gen[®]

ZEAXANTHIN

A rapidly ageing global population and an **increased need to support better vision, cognition and healthy ageing** worldwide has seen an increase in the demand for dependable natural ingredients that can improve the quality of life.

While many ingredients focus on addressing these issues individually, there has never been a stable ingredient that offers multiple benefits while being suitable for a variety of end applications.

Our globally trusted and cost-effective ingredients **Lute-gen[®] & Zea-gen[®]** - high-quality Lutein & Zeaxanthin from Marigold (*Tagetes erecta*) are grown responsibly through our transparent seed-to-drum program, processed in our GMP-certified plant in Bangalore, India and available around the world.



Non-GMO
Project Verified



Vegan
& Vegetarian



Solvent &
Pesticide Free



Allergen Free



Certified
Kosher




Certified
Halal



Patent
Pending



Drug
Master File

 Long-term and accelerated stability studies available for Lute-gen[®] & Zea-gen[®] in oil, powder and beadlet forms.

These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease.

 **Bio-gen**
Extracts

Choose Good Health™

www.bio-gen.in



Choose Good Health™

LUTEIN (FREE & ESTER)

ZEAXANTHIN

Lute-gen® - Lutein (Free & Ester) & Zea-gen® - Zeaxanthin are both derived from the *Tagetes erecta* species of Marigold flowers under a unique seed-to-drum program in which the supply chain is fully integrated, offering complete traceability and transparency of the entire process.

The Non-GMO Project Verified Lute-gen® & Zea-gen® are free of pesticides and residual solvents making them **clean-label** products in every aspect. Developed to be **highly stable** in oil, powder & beadlet forms, Lute-gen® has been **researched extensively** for its potential in various areas related to overall health and well-being. We have also established its potential for a **variety of end-applications** with promising results.



Recommended Daily Intake:
Lutein 10mg & Zeaxanthin 2mg

Current Daily Intake:
1.7mg Lutein & Zeaxanthin

The recorded average intake of Lutein & Zeaxanthin from diet is only around 1.7mg¹. Therefore, there is a need to bridge this gap through supplementation.

We have been conducting several studies to explore the protective effects of Lute-gen® & Zea-gen®, some of which are:

HEALTHY AGEING

We have conducted and published an independent study that demonstrated the potential of Lute-gen® in preventing Telomere length erosion *in vitro* under oxidative stress conditions.

EYE HEALTH

Lutein & Zeaxanthin have shown promising results in the fight against atrophic age-related macular degeneration. We are studying Lute-gen® extensively for its role in improving Macular Pigment Optical Density.

Study Details:

EYE HEALTH BEYOND AREDS

A randomized, double blind, placebo controlled, three-arm study to evaluate the safety & efficacy of Lute-gen® & Zea-gen® for MPOD, and establish its correlation with foveal thickness. Number of subjects: 93 | Duration of study: 180 days | Estimated time of completion Q4 2020 (includes publication of data)




REFERENCE:

1. Mares. Lutein and Zeaxanthin Isomers in Eye Health and Disease. Annual Review of Nutrition. 2017
2. Stringham. Lutein across the Lifespan: From Childhood Cognitive Performance to the Aging Eye and Brain. Current Developments in Nutrition. 2019

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RESEARCH

-  HEALTHY AGEING
-  EYE HEALTH
-  COGNITIVE HEALTH

COGNITIVE HEALTH

Several studies have indicated the correlation between Lutein in the diet and an improvement in cognitive function especially in older people. A combination of Lutein and Zeaxanthin may support better cognitive function in all age groups.²

Study Details:

COGNITION

A randomized, double-blind, placebo controlled, two-arm study to evaluate the safety & efficacy of Lute-gen® & Zea-gen® on CNS Vital Signs in addition to VeM, ViM, Reasoning Ability, Executive function. Number of subjects: 60 | Duration of study: 180 days | Estimated time of completion Q1 2021 (includes publication of data)

How we make Lute-gen®

The journey from farm to high quality Lutein

www.bio-gen.in



Manufactured under our **Seed-to-Drum** Program where each step has **Critical Control Points** to ensure an ingredient that is free of residual solvents & pesticides while maintaining ingredient integrity in terms of active content



The Lute-gen® production process begins with Non-GMO marigold seeds.



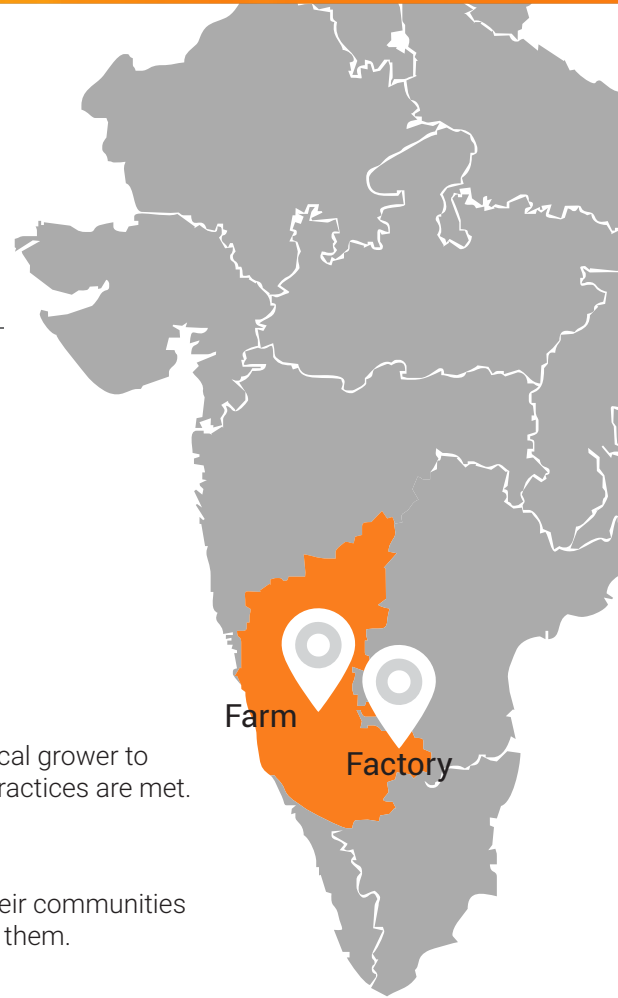
Responsible farmers are selected through a detailed qualification process.



Our team of farm-tech advisors manage each local grower to ensure our distinguished requirements of best-practices are met.



We strive to help our growers and ensure that their communities are directly benefitted from our relationship with them.



The Extraction Process

The marigold flowers are dried, fermented and then processed in our unique oleoresin extraction process. The oleoresin thus obtained is further purified to make our high quality Lutein, Lute-gen®



Planting & Harvesting



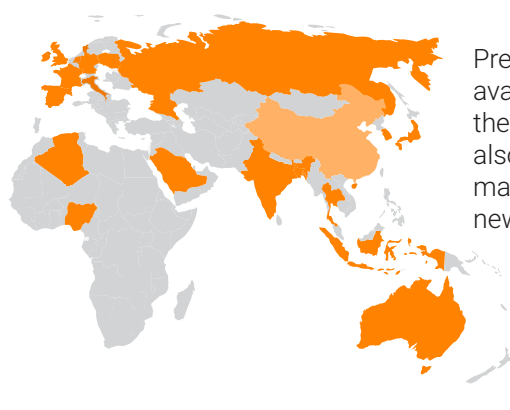
Drying & Fermentation



Oleoresin Extraction



Oleoresin to purified Lutein



Presently, Lute-gen® is available around the world in the regions indicated. We are also expanding our horizons to make our Lutein available to new markets



■ Available
■ Under Qualification



Choose Good Health™



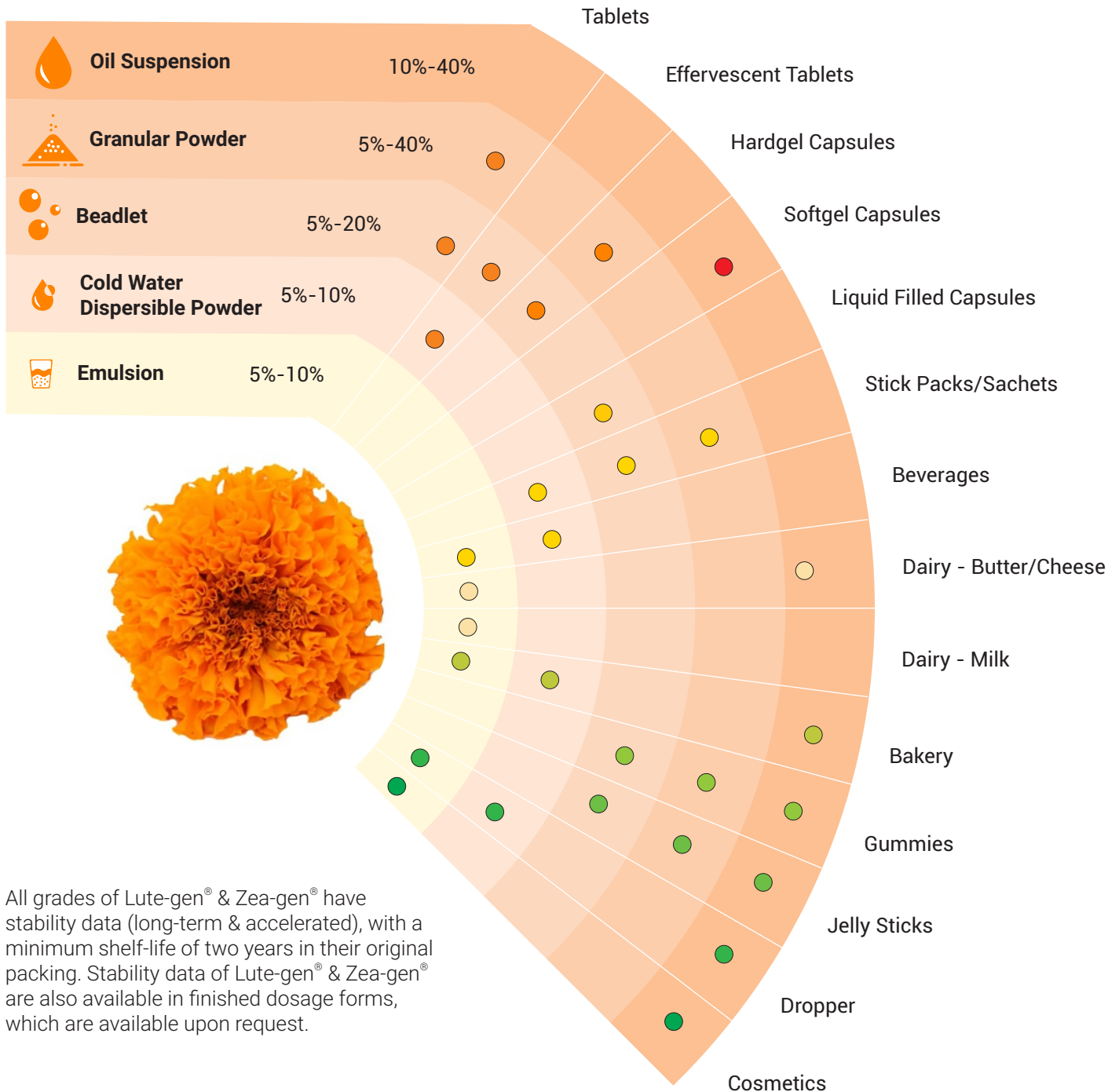
LUTEIN (FREE & ESTER)



ZEAXANTHIN

Available Grades & Applications

We have done some extensive work on Lute-gen® and discovered that it is suitable for a plethora of promising end applications. Its availability in over four different grades adds to its versatility.



All grades of Lute-gen® & Zea-gen® have stability data (long-term & accelerated), with a minimum shelf-life of two years in their original packing. Stability data of Lute-gen® & Zea-gen® are also available in finished dosage forms, which are available upon request.