

Nutrilite Farms: Certified Organic Agricultural Production Systems Supported by a Multi-Disciplinary Research Program

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The Nutrilite Brand

THE BEST OF NATURE & THE BEST OF SCIENCE

other products designed to address the nutritional needs of anyone

NUTRILITE products offer the best of nature and science:

☐ Nutrilite plant concentrates are made from the finest natural ingredients grown according to sustainable farming principles, reflecting our commitment to the social, economic, and environmental well-being of the surrounding

☐ They are the direct result of extensive research and laboratory analysis, ensuring high-quality nutrient and ingredient combinations, based on proven scientific evidence.

* Based on 2006 sales.

NUTRILITE™ supplements have always been the product of science

Years ago, the founder, Carl Rehnborg pioneered sophisticated techniques to analyze the nutritional value of specific plants. His laboratory featured one of the earliest gas chromatography

Today, Nutrilite scientists around the world use the latest methods and technology to improve ways of extracting the maximum goodness from our crops and evaluate new ingredients for our

☐ We test plant concentrates for proper nutrient content ☐ We research new formulations and innovative processing methods to deliver enhanced

☐ Using high-performance testing and analytical equipment, Nutrilite scientists ensure that every NUTRILITE product has the quality, content, and performance we claim. ☐ We explore new and improved products and ingredients, based on the latest scientific

Nutrilite Products - the Result of Extensive Analysis and Research

Every NUTRILITE™ product is the direct result of extensive field testing and laboratory analysis, conducted by scientists, microbiologists, chemists, pharmacists, nutritionists, and other technicians. We have made a significant investment in scientific expertise and equipment, not often found in the nutritional supplement industry.

Our comprehensive analytical services include:

Bioassays – to identify beneficial ingredients and compounds for our products. **Microbiology** – to set specifications and test ingredients to ensure product safety. **Analytical chemistry** – to identify sources of ingredients, and develop processes for creating safe, consistent, and effective products.

Important Nutrilite facts:

☐ Carl F. Rehnborg founded Nutrilite in 1934.

☐ The Nutrilite brand encompasses more than 200 products including nutritional food supplements in liquid, powder, food bar, tablet, and capsule form. ☐ Up to 6 billion Nutrilite vitamin and mineral tablets/capsules are sold each

□ Nutrilite brand products are sold in more than 50 countries.

☐ More than 10,000 quality assurance tests are conducted on Nutrilite products each month.

Access Business Group LLC, a subsidiary of Alticor, Inc., manufactures and distributes Nutrilite products.

☐ Nutrilite products are sold exclusively by millions of Independent Business Owners (IBOs) through Alticor's Amway Corp. and Quixtar, Inc. subsidiaries.

Nutrilite Farms – Providing Vertically rated Botanical Concentrates And ngredients For Health And Beauty Products



Nutrilite Farms: California, USA

Nutrilite; Lakeview, California

Land Area: 278 ha total Latitude/Longitude: 33.45N/117.15W Elevation: 611 m above sea level

Mean Annual Precipitation: 305 mm Geographic Setting: The farm is located in Riverside Co. comprised mostly of desert surrounded by mountainous areas. Extremely hot summers contrast with mild winters, with very little rainfall throughout. Soils are deep, well drained, nearly level, with a surface layer of alkaline sand to sandy loam. Soils developed on alluvial fans and flood plains. Irrigation is required.

Organic Certification: CCOF / IFOAM Organic farming certificate for alfalfa, carrot and pomegranate; numerous research crops

Production/Research Facilities: farm, greenhouse, shadehouse, drying/milling/extraction/granulation, and spray drying operations

Nutrilite Farms: California, USA Lakeview, California Crops Grown & Harvested As Botanical Feedstock At

Alfalfa	Medicago sativa	Leaf/Stem
Carrot	Daucus carrot	Root
Pomegranate	Punica granatum	Fruit

Lakeview, CA Manufacturing Facility



Nutrilite Farms: Mexico

Land Area: 566 ha acres Elevation: 850 m above sea level Mean Annual Precipitation: 450 mm Geographic Setting: The area is situated in Jalisco state, in central Mexico. The soils are mostly sandy – sandy loam, and alkaline at the surface. The climate is a constant, semi-arid, tropical climate, with full sun 265-300 days per year. The plateau is situated in a mountainous, hilly region. Irrigation is required.

Organic Processing Certification: IBD certification for all crops except orange, grapefruit and asparagus.

Production/Research Facilities: farm, shadehouse, drying, and milling

Organic Certification: Oregon Tilth and IBD for crop production

Crops Grown & Harvested As Botanical Feedstock At El Petacal

Nutrilite Farms: Mexico

Alfalfa	Medicago sativa	Leaf/Stem
Broccoli	Brassica oleracea, Botrytis	Floret
Spinach	Spinacia oleracea	Leaf
Kale	Brassica oleracea, Acephala	Leaf
Parsley	Petrosilinum crispum	Leaf/Stem
Sage	Salvia officinalis	Leaf
Watercress	Nasturtium officinale	Leaf/Stem
Citrus - Grapefruit	Citrus paradisi	Fruit
Citrus –Orange	Citrus reticulata	Fruit
Citrus - Lemon	Citrus x limon	Fruit
Chia	Salvia hispanica	Seed
Prickly Pear Cactus	Opuntia ficus-indica	Leaf Pad
Asparagus	Asparagus officinalis	Spear
Oregano	Oreganum vulgare	Leaf/Stem

Nutrilite Farms: Brazil

Fazenda AMWAY Nutrilite Do Brasil LTDA; Ubajara, Brazil

Land Area: 1037 ha total

Latitude/Longitude: 3.51.12S / 41.5.10W Elevation: 730-780 m above sea level

Mean Annual Precipitation: 340-400 mm

Geographic Setting: The farm is situated on a plateau in the Brazilian highlands, in northeast Brazil. Soils are predominately sand-sandy loam, and derived from underlying sandstone strata. The climate is semi-arid, tropical. The dry-season extends from July to December. The rainy-season extends from January to June]. Irrigation is required.

Organic Certification: Instituto Biodinamico (IBD) / IFOAM. Organic farming certificate for acerola, passion fruit, coconut, guava, & cashew and organic processing certification for extraction of fruit pulp (acerola, passion fruit, pineapple, and guava) and production of concentrated juices (acerola and

Production/Research Facilities: farm, shadehouse, extraction, concentration and spray drying operations

Nutrilite Farms: Brazil

Crops Grown & Harvested As Botanical Feedstock At

Ubajara, Brazil			
Acerola	Malpighia glabra	Fruit	
Guava	Psidium guajava	Floret	
Passion Fruit	Passiflora edulis	Fruit	
Picao Preto	Bidens pilosa	Leaf/Stem	
Pineapple	Ananas sativus	Fruit	
Watercress	Nasturtium officinale	Leaf/Stem	

Nutrilite Farms: Washington, USA

Euphrata, WA. – Grant Co., Washington

Land Area: 1037 ha total Latitude/Longitude: 47.2N / 119.5W Elevation: 833-1066 m above sea level Mean Annual Precipitation: 152 – 229 mm Geographic Setting: Soils are on glacial outwash plains and terraces. Soils formed in glacial outwash mixed with loess in the upper part. Summers are arid, hot and dry. Winters are cool and moist. Irrigation is required.

certificate (compliant with JAS & IFOAM and EU organic verification program)

Nutrilite Farms: Washington, USA

Arctium pubens

Nepeta cataria

Taraxacum officinale

Tanacetum parthenium

Echinacea purpurea

Origanum majorana

Origanum vulgare

Mentha x piperita

Scutellaria lateriflora

Mentha spicata

Phaseolus vulgaris

Nutrilite Farms: Washington, USA

Trout Lake, WA. - Klickatat Co., Washington

Geographic Setting: Soils formed in alluvium from basalt and volcanic ash. Soils

Organic Certification: WSDA / IFOAM organic food producer/processor

Production/Research Facilities: farm, drying/milling operations/extraction

include gravelly ashy sandy loam and stony ashy loam. Summers are warm and

dry. Winters are cold and wet with snow cover from Dec. to March. Irrigation is

certificate (compliant with JAS & IFOAM and EU organic verification program)

operations; contract greenhouse produces certified organic transplants for field

Nutrilite Farms: Washington, USA

Feverfew Tanacetum parthenium Leaf/Stem

Echinacea angustifolia

Echinacea purpurea

Origanum vulgare

Rubus strigosus

Scutellaria lateriflora

Urtica dioica

Trifolium pratense

Rumex acetosella

Melissa officinalis

Valerian officinalis

Rheum palmatum

/accinium corvmbosum

Leaf/Stem; Root

Crops Grown & Harvested As Botanical Feedstock At

chinacea angustifolia

Crops Grown & Harvested As Botanical Feedstock At

Common Burdock

Common Dandelion

Feverfew

Narrow-leaf Coneflower

Purple Coneflower

Marjoram

Peppermin

Blue Skullcap

Spearmint

White kidney bean

Land Area: 620 ha total:

Narrow-leaf Coneflower

Purple Coneflower

Red Raspberry

Blue Skullcap

Stinging Nettle

Red Sorrel

Valerian

Cultivated Blueberr

Latitude/Longitude: 45.96N/121.48W

Elevation: 833-1066 m above sea level

Mean Annual Precipitation: 838 – 940 mm

Organic Certification: WSDA / IFOAM organic food producer/processor

Production/Research Facilities: farm, drying/milling operations

Farms and Remote Agricultural Process Facilities

ABG/Nutrilite Agricultural Research Program:

Nutrilite Farms Facilities

Supporting Initiatives In:

Practices Research

☐ Ingredient Technology Screen (ITS) ☐ Vertical Integration Of Botanicals For Dehydrates, Concentrates, and Extracts ☐ Existing Crop Improvement Through Agricultural

Evaluate Concept-New Crop Botanicals For Functional Activity In The Ingredient Technology Screen ["Discovery Engine"]:

Systematic approach to selection, production, and

screening botanical feedstock samples: project scientist identifies lead from ethno-botany, traditional medicine, or new investigation

☐ identify seed/propagule source for field planting on Nutrilite farm

☐ identify the farm where botanical is to be grown

☐ grow, harvest, and prepare the botanical feedstock sample for shipping to in-house analytical services for testing in standard panel of broad spectrum bioassays, targeting multiple potential functionalities







Ensure Vertical Integration At Farms Through Development Of Competencies Around Critical Production Variables

Systematic approach for initiating production on the Nutrilite farms aligned with the engineering process and product development

☐ Crop adaptation & positioning – where and how much to grow ☐ Pest/disease management & plant health enhancement – develop/test strategies ☐ Soil resources/plant nutrition management – crop needs & delivery mechanisms ☐ Biomass and marker or active compound optimization — maturity & stage of growth identified

□ Variety screening and selection; assessment of capability for in-house production of propagules to maintain botanical identity







Existing Crop Improvement Through Agricultural Practices Research

Main Areas Of Focus: Systematic approach to improvement of crop production that supports the current initiatives and ROI

Equipment and New Technology

☐ Plant Pest & Disease Management /Plant Health Enhancement

☐ Soil Resources & Plant Nutrition

☐ Plant Germplasm Resources

Existing Crop Improvement Through Agricultural Practices Research: Equipment and New Technology

☐ Evaluate equipment and agronomic approaches to feed stock

*planting method, plant populations, row width *irrigation management

*harvesting method, harvest criteria /stage of maturity

*post-harvest handling ☐ Evaluate delivery systems for agronomic inputs:

*liquid fertilizers, compost teas, compost and soil amendments

☐ Evaluate equipment for seed/propagule production: *harvesting, cleaning, and storing seed for planting

Existing Crop Improvement Through

Agricultural Practices Research: Plant Pest & Disease Management/ Plant **Health Enhancement**

☐ Evaluate utility & efficacy of approved certified organic products: *insecticides, herbicides, fungicides, growth regulators

*seed treatments *bio-pesticides

☐ Evaluate materials for plant health enhancement:

*plant extracts and compost teas *mycorrhizae inoculants

Existing Crop Improvement Through Agricultural Practices Research: Soil Resources & Plant Nutrition

Support on-farm, organic nutrient management practices:

☐ Evaluate on-farm compost production [analytical and microbiological ☐ Evaluate composts teas for plant health and soil-building properties

[microbiological characterization] ☐ Evaluate greenhouse growth media for organic certified transplant production ☐ Evaluate utility and efficacy of certified organic approved materials/products as

☐ Evaluate rotations, cover crops, green manures and companion plantings

Existing Crop Improvement Through Agricultural Practices Research Plant Germplasm Resources

☐ Acquire and evaluate plant germplasm resources [e.g. varietal screening] for

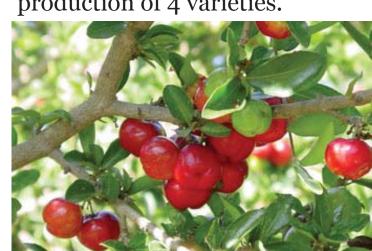
development and QA targets ☐ Provide research and support for seed quality and seed health testing ☐ Ensure compliance with phytosanitary regulations for domestic and

☐ Integrate botanical identification technologies in support of specification

international movement of seed and plant propagules ☐ Ensure compliance with intellectual property, native plant, and varietal derivation restrictions on use of plant germplasm resources

Selection & Propagation of Acerola [Malpighia glabra] Adapted to

Over a period of 2 years, 68 different combinations of rootstock and scions were evaluated for adaptation and productivity, ultimately resulting in large scale production of 4 varieties.





Step 1: Day 1-35 Select seed from ripe fruit. Germinate from seed in sterile seedbeds and select the most vigorous seedlings at 100 mm of height.

Step 2: Day 35 – 105





Transplant seedling trees to liners and grow until stem is the width of a pencil. The seedling trees will be used as rootstock for grafting. Rootstock were selected for vigorous growth and balanced adaptation to soils and nematode pests.

Step 3: Day 105 – 155



Scions from 4 selected varieties are grafted to the rootstock. These grafted trees will be allowed to grow to 400-500 mm before transplanting to the field nursery. These varieties were selected based on early flowering, resistance to pests, diseases, vitamin C content of the fruit and fruit yield.

