Thanks to the partners
5th Edition International Cosmetopoeia Congress

1st Edition International Pacific Cosmetopoeia Conference

22, 23 and 24 November 2016
Punaauia Catering and Hospitality College, Tahiti
OMEGA PROJECT
Cooperation between two committed companies
ORGANIC LIPACTIVE INCA INCHI® WO

Tahiti – November 2016

Dr BERTHON Jean-Yves, CEO
OMEGA PROJECT

2002

PROJECT GENESIS

- José ANAYA looked for a substitution of fish Omega 3
- He found ancient book in national library containing article about endemic Peruvian plant consumed by Inca civilization

2003

CHAIN’S CREATION

- José who lived in France for 20 years, contacted ONUDI office in Paris
- GREENTECH received a fax from ONUDI about OMEGA PROJECT

Today

CLOSE & SUSTAINABLE PARTNERSHIP

OMEGA PROJECT:
Network and partnerships to support José ANAYA
Sacha Inchi, Inca peanut
*Plukenetia volubilis L., Euphorbiaceae*

33% PROTEINS
High digestibility

33% Omega rich OIL
55% Omega 3
35% Omega 6
10% Omega 9

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OMEGA PROJECT

• Location: North of Peru – Amazon area – Few industries
• New crops for farmers

• Guarantee of additional income source
• Support for new practices and new technologies

• Development of a high value natural resource:
  ✷ Healthy foods
  ✷ Feeds
  ✷ Cosmetics

• Collaboration between farmers, industries & Universities
OMEGA PROJECT

Iquitos

Production site
Inca Inchi oil
Tarapoto

Lima

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Organisation:
- Creation of farmer associations by farmers
- Implementation of local collection centers
- Building a factory extraction
- Technical support by companies

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OMEGA PROJECT : INCA INCHI PLANT

Crops

FOOD AGREEMENT by European Union

Seeds & Capsules

Fruits

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• Quality of oil: obtained traditionally, without solvent and free from chemical pollutants

• Expansion of Inca Inchi crop associated with reforestation of Amazonian deforested areas with native trees as well as food and medicinal plants

• About 8 000 new direct and indirect jobs are created in farming, industry and services
• Fatty acid is a long hydrocarbon chain capped by a carboxyl group (COOH). Unsaturated acids content one or more double bonds (PUFAs).

• Omega-6 and Omega-3 are type of PUFA that cannot be synthesized in our bodies and most be obtained from diet or topical application.

  Essential fatty acids

• Both Omega-6 and Omega-3 play a critical role in normal skin function and appearance.
• Omega-6 and Omega-3 have many roles in the skin:

- Participate in the structural integrity and barrier function protection against environmental aggression (pollution, bacteria, …)

- Prevent water loss skin hydration

- Prevent skin inflammatory soothing effect
Omega-6 and Omega-3 have many roles for healthy hair:

- Prevent dry and itchy scalp
- Smooth and repair the hair
- Help to repair hair fibers
ORGANIC LIPACTIVE INCA INCHI® WO

FATTY ACIDS COMPOSITION

- Exceptional concentration in unsaturated fatty acids > 90%
  - Oleic acid (C18-1) - Omega 9 8-12%
  - Linoleic acid (C18-2) - Omega 6 25-37%
  - $\alpha$-Linolenic acid (C18-3) - Omega 3 45-60%

- Total saturated fatty acids = 5 to 8%
  - Palmitic acid (C16) 3-5%
  - Stearic acid (C18) 1.5-3.5%

<table>
<thead>
<tr>
<th>Fatty acid</th>
<th>Type</th>
<th>Developed Formula</th>
<th>Simplified Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oleic</td>
<td>Omega 9</td>
<td>CH$_3$(CH$_2$)$_7$CH=$CH$(CH$_2$)$_7$-COOH</td>
<td>C$<em>{20}$H$</em>{34}$O$_2$</td>
</tr>
<tr>
<td>Linoleic</td>
<td>Omega 6</td>
<td>CH$_3$(CH$_2$)$_6$(H=CH)$CH$(CH$_2$)$_7$-COOH</td>
<td>C$<em>{18}$H$</em>{32}$O$_2$</td>
</tr>
<tr>
<td>Linolenic</td>
<td>Omega 3</td>
<td>CH$_3$-CH$_2$-CH=$CH$(CH$_2$)$_6$-CH=$CH$(CH$_2$)$_7$-COOH</td>
<td>C$<em>{18}$H$</em>{28}$O$_2$</td>
</tr>
</tbody>
</table>

Essential Fatty acids

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ORGANIC LIPACTIVE INCA INCHI® WO

COSMETIC APPLICATIONS

SKIN CARE
Face & Body

HAIR CARE
Scalp & Fiber

FORMULATION BASE
FOR ANY COSMETIC PREPARATION

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**ORGANIC LIPACTIVE INCA INCHI® WO**

**SKIN CARE – In vitro test**

**Immunochemistry study** performed after 24 hours of incubation of Organic LIPACTIVE INCA INCHI® WO at 1% on reconstructed epidermis.

- Keratinocytes rate increased by 19% => Density & skin firmness improvement
- Cutaneous tissue cohesion is improved
**Cutometer**
- 20 volunteers - 28 days
- Twice daily use of emulsion
- 5% ORGANIC LIPACTIVE INCA INCHI® WO vs placebo (5% mineral oil)

Skin suppleness is improved by 66% after 28 days.
SKIN CARE – *In vivo test*

- **Sensory test**
- 17 volunteers - 28 days
- Twice daily use of emulsion
- 5% ORGANIC LIPACTIVE INCA INCHI® WO vs placebo (5% mineral oil)

83% of volunteers felt a comfort sensation
88% of volunteers felt a suppleness sensation
94% of volunteers felt a softness sensation
83% of volunteers felt a moisturising sensation
Hair is smoother, softener, shinier & resistant

**ORGANIC LIPACTIVE INCA INCHI® WO**

**HAIR CARE – In vivo test**

- Visualization by Scanning Electron microscopy

Hair is smoother, softener, shinier & resistant

*Tahiti – November 2016*
HAIR CARE – *In vivo test*

- **Repairing effect**
- 20 volunteers
- Conditioner with 2% ORGANIC LIPACTIVE INCA INCHI® WO vs placebo

*Suppleness to fibers*  
*Silky hair*  
*Manageable volume*
• Composition of seed:
  • 35% oil
  • 35% proteins (90% are assimilable vs 72% in Soy)

• Potential utilisation:
  - Directly as a protein source (Food agreement March 2013)
  - after enzymatic hydrolysis to obtain peptides or amino-acids
**ORGANIC LIPACTIVE INCA INCHI® WO**

**Protein hydrolyzates and skin**

- **Hydration**
  - Supplementation in amino-acids involved in the Natural Moisturizing factor (NMF)

- **Anti-aging**
  - Stimulation of collagen synthesis

- **Barrier function**
  - Stimulation of fillagrin precursor

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Organic Lipactive Inca Inchi® WO

Cosmetic Applications

- Hair repairing care
- Anti-ageing care
- Regenerative skin care
- Sensitive skin care
- Anti-stretch marks skin care
- Moisturizing skin care

Advised level in oily phase: 1-5%
INCI Name: Plukenetia Volubilis Seed Oil, Tocopherol
OMEGA PROJECT

SHARING & COMMITTED ACTIONS

• Improvement of local farmers’ quality of life
• Preserving the environment
• Purchase tools for oil & proteins local production
• Promotion of by-products: fruits, shells, fibers ...

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Beyond 2000 hectares
15 Villages
1500 Families

30 Producers of Sacha Inchi oil
More than 1000 tons oil produced
Which about 300 tons exported
For Food & Cosmetic uses

More than 1000 tons of proteins produced
Which about 500 tons exported
For Animal & Human Consumption
Thank you for your attention
See you on: www.greentech.fr