

NovelBaltic

Development of novel plant-based health and wellness products for export purposes

Webinar «Business must go on! Exporting to distant markets and product development trends today»

Presenter: «Silv EXPO», LTD

R&D Project Manager

Mg.Sci.Sal. Ilona Vanaga



About «Silv EXPO»

- We are a «green» phytopharmacy company
- We manufacture biologically active substances from conifer tree foliage and other plant biomass for food, pharmacy, cosmetics and plant protection industries
- We follow the current world trend of replacing synthetic products with natural, ones on the basis of plant raw materials



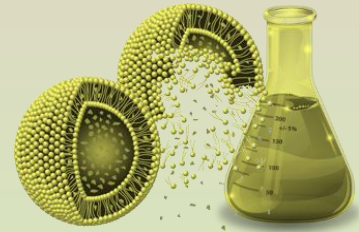
Product Innovation



- According to Harvard Business School data 95% of new products fail on the market
- Product innovation represents a new way of solving a problem a high number of consumers have
- 3Qs:
 - Is the product relevant for a significant number of consumers?
 - Is the product better than its competitors?
 - Is the innovation or uniqueness of the product obvious?
- Creating new spaces in a seemingly crowded market
- Improvement of existing product or addition of new features to an existing product

How to measure innovation?

- Measure innovation prior to the product launch
 - Market research
 - Consumers & competition
- «Gaps» - specific services” that established businesses do not yet offer; based upon emulation of the existing business model & addition of new services & «blue oceans» - unexplored market spaces associated with high potential profits
- Data-driven Market Research
 - Sentiment Analysis and Social Listening



Supercell Sport efficacy research in well-trained amateur athletes

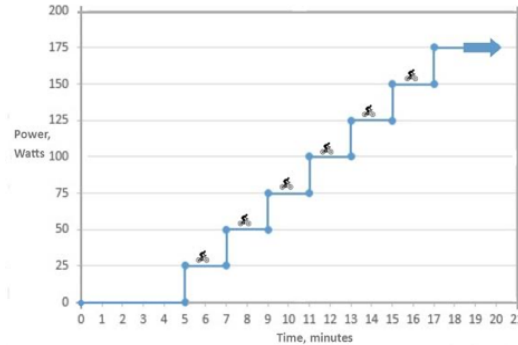
- 30 amateur floorball players were divided into control and experimental (product) groups



	Amount Per Day in 1 capsule
Phospholipid mixture - including phosphatidylcholine	470 mg 188 mg
Siberian fir needle extract - including polyprenols	30 mg 22.5 mg



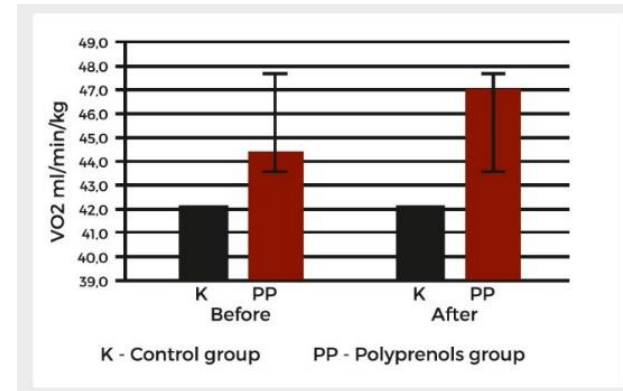
- Polyprenol liposome capsules were administered for 69 ± 5 days
- All athletes had bloodwork done (Phases 1 and 2)



- VO₂max** (maximum oxygen capacity) **exhaustive incremental cycling test** with each step being 2 minutes and increment of 25W

Results

- VO₂ peak & a series of other cardiorespiratory variables were measured
- In the blood plasma samples full blood count and biochemical parameters such as alanine aminotransferase, aspartate aminotransferase, γ -glutamyltransferase, alkaline phosphatase, phospho-creatine kinase and others were analyzed before and after use of polyprenol product
- After use of Supercell Sport VO₂ peak (peak oxygen consumption) increased by 6% while in control group there were no changes
- Ventilation increased by 9.4% in polyprenol group while by 3.7% in control group (5.7% \uparrow)
- Average cycling test time increased by 1 min in polyprenol group while did not change in control group



Microemulsion skincare



Formula 1 – polyprenol microemulsion*

Formula 2 – polyprenol*, β -glucan, *Undaria pinnatifida* extract

Formula 3 – provitamine paste

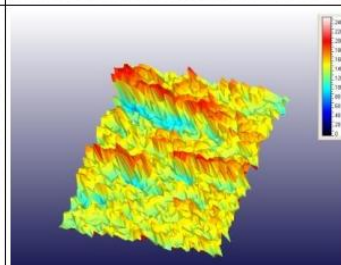
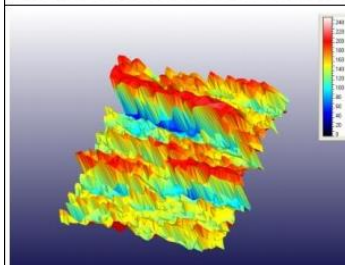
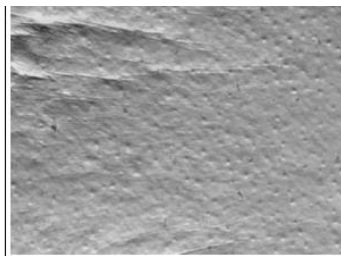
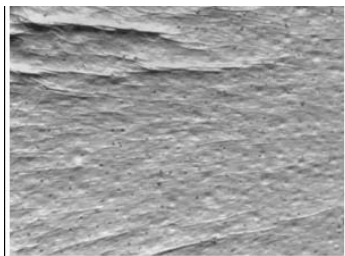
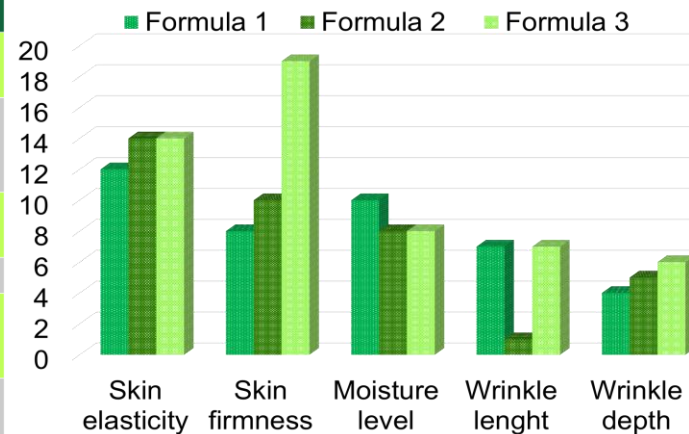
Before

After 4 weeks

Table 1 Subjective volunteer assessment results

Claim	Positive responses (%)		
	Formula 1	Formula 2	Formula 3
Fast skin absorption	100	96	96
Improves immediate moisturizing	96	96	100
Smooths the skin relief	96	88	92
Firms the skin	92	92	88
Visibly improves skin's elasticity	88	84	92
Decreases wrinkles	80	80	84

Fig. 1 Instrumental skin parameter tests (expressed as percent of control)



Summary

- Contemporary consumers are intelligent and eco-conscious, thus new market acquisition requires high level of innovation
- Timber production residues like conifer needles are cheap and year-round available raw materials which can be used in high value-added products
- Conifer (*Abies sibirica*) needle polyprenols and other oil-like fractions can be extracted using “green” recyclable solvents like supercritical CO₂
- Both, liposome and microemulsion forms work well for lipophilic compounds and can be created from a mixture of lecithins and phospholipids using sonication or high-pressure homogenization methods
- Advantages of liposome and microemulsion technologies:
 - increased bioavailability of the incorporated active substance
 - more targeted delivery of active substance to the target organ
 - lower toxicity compared to “classical” forms



**Thank you for your
attention!**

Any questions?

Scientific Questions

