

Food industry expectations for insect as raw material

Insects in food chain 29.8.2017

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- How food enterprises perceive the use of insects as food ingredient?
 - industrial food manufacturing
 - catering services, restaurants
- Possibilities, challenges and barriers
- Spreading the message through personal interview

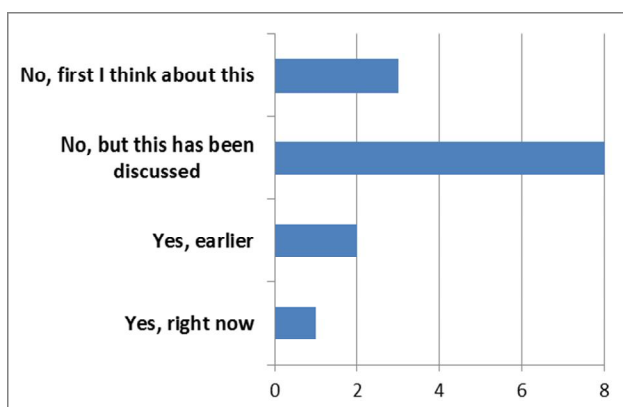


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Themes

- Interest and previous experiences
- Possible products
- Desired ingredient characteristics
- Potential markets and consumers
- Greatest challenges

Have you proved insects in your company's product development?



- Experience from insects is still minimal
- 1/15 has tried insects in product development
- Mostly tasting insects in food fairs and travel

What is the potential added value from insect ingredient?

For products

Ecological and ethical values

Improved nutrient composition

Highly attentive and exotic

Tasty, but not necessarily by insect

Innovative

For Consumers

Sustainable alternative

Responsible consumption

Trendy

Counterback trend for vegetarian foods

"Macho food"

For company

Responsible corporate image

Forerunner & trendsetter to sustainable alternatives

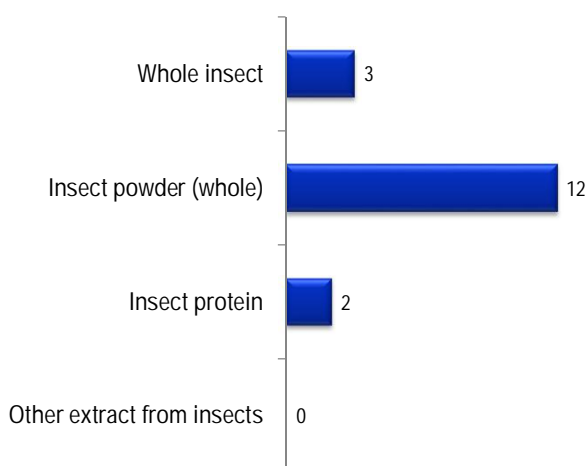
Innovative image

High branding



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Primarily interesting insect ingredient?



- Powder from whole insects
- Multiple uses in various product concepts
- Whole insect fits best in restaurant environment, also as specialty in bakery goods
- Little knowledge of other insect extracts than protein



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Comparing insects to other conventional (protein) ingredients?

Soy (6)

Casein

Pea protein

Vegetable proteins (cereal)

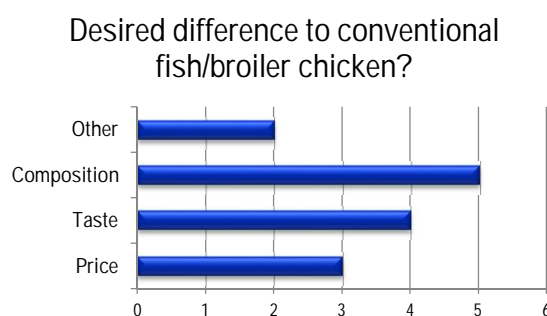
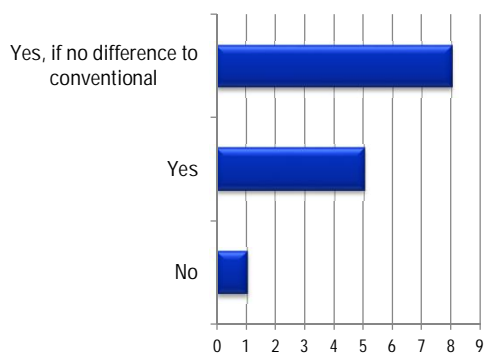
Milk protein

Pulled oats

Restaurants: crustaceans & seafood, replacing meats

- Difficult to compare
- Ingredient cost and characteristics often compared to soy bean, pea protein and milk protein
- Unique category in between the animal and vegetable sources.
- Acceptable price range depend solely on final product

Would you use fish and broiler chicken raised by insect feed?



- No significant barriers for insect-fed meat
 - Possible advantages in sustainability, nutrient composition, naturalness and ethical issues
- > Insects seen as natural food > animal welfare
- Price not necessarily cheaper, other advantages

Product information sheet?

In addition to typical facts;

- Instructions – handling, recipes and dosage
- Information how to teach consumers, vrt. quorn, quinoa and newcomers
- Product safety information is critical, extensive risk identification and testing
- Visible farming process and transparency
- Allergenicity must be clear
- Organic certification for insects?

Ideal consumer segments for insect foods?

Age group

Youngsters, students

Next-gen clients

Young adults

Students 19-25

Young below 50's

Senior people

Consumer groups

Organic users

Sports nutrition users

Special diets

Public sector catering

As a replacement to...

Meat of non-vegans

"trendy diets"

Unresponsible options

To whom?

Flexible eaters

Environmentally concious

Ethical and responsible consumer

Highly educated

Traveler

Experience seekers

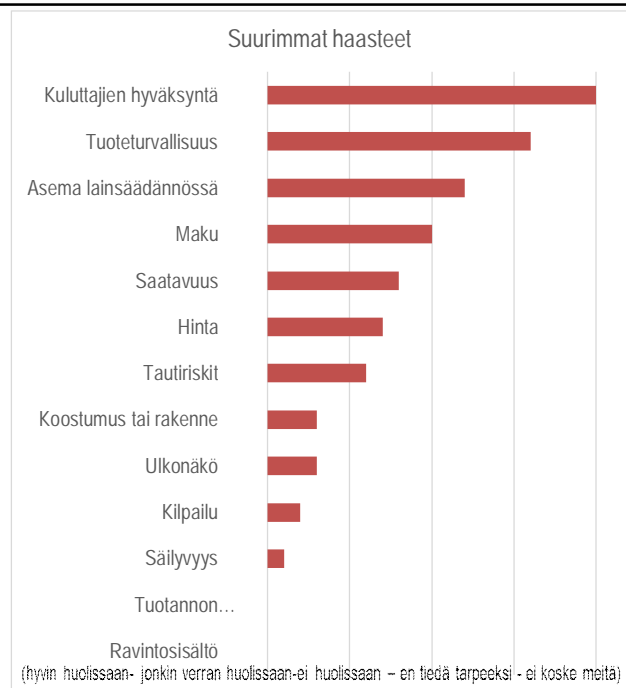
Concious meat eater

Sales arguments

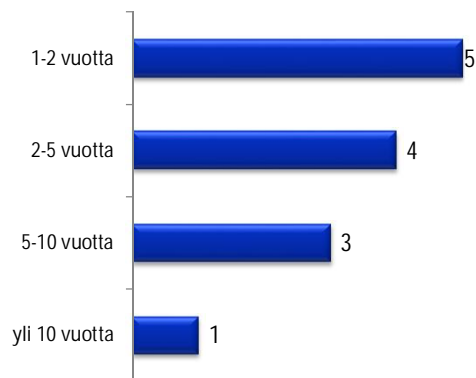
- Climate smart, sustainable & ecological production are strongly linked to marketing of insect foods
- Need to convince consumers about the controlled production throughout the chain, in respect to their novelty and safety
- Credibility by local production that is approved by food authorities
- Water footprint not very relevant argument in Finland
- Naming and branding insect foods is important

Challenges for use of insects in food products?

- Consumer mainstream
- Product safety as novel animal based food
- Uncertainties in legislation
- Little experiences of taste and suitability
- Availability unknown
- Zoonosis risks
- Texture & mouthfeel
- Competition not seen as a threat



When are bugfoods at food retail in Finland?



- Optimism in the air
- Respondents with little prejudice, partly interested to promote insect foods
- However, interview was likely accepted by readily interested companies

Companies interviewed

Food manufacturers,

HoReCa

Retail

Ingredients/wholesale

Big companies 9

SMEs 5