Production of instant maize/corn meal/porridge/ingredient by steam infusion

South Africa
Justin Roberts

Budget:
$50,000 - $100,000

Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.

Dry and mature corn kernels from the farming community is sourced, cleaned and then steam cooked under very high pressure (16.5 Bars). The final product is a ready-to-eat wholesome flour/powder/porridge/ingredient with many food applications.

Problem: What problem is this project trying to address?

One of the prime problems is to scale-up the production process, especially with selecting the correct down-stream processing equipment. The uncooked corn has a density of approximately 0.8 vs the density of about 0.4 for the cooked product. The costs and acceptance of a steam cooked vs a extruded maize/corn product is an issue for the mis-informed wholesaler/consumer.

Organization:
Iso-Foods cc - Affiliate of Future Life Health Foods

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Country
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Country your work focuses on

Website URL
Innovation

**What makes your idea unique?**

The product is ready-to-eat food or can be used as an ingredient, is good tasting and smelling with excellent textural properties. The product mixes very well with water or milk without clumping. The product is very digestable and very suitable for infant, geriatric and normal adult feeding programes. After cooking the maize/corn meals is completely sterile. If the necessary precautionary measures are followed down-stream, a product with a very low microbial load can be produced.

**Do you have a patent for this idea?**

Yes

Impact

**What impact have you had?**

The children of a vast majority of households, particularly early childhood development, in RSA is at risk - malnutrition. This porridge due to its unique properties is the ideal carrier of other nutritional substances such as protein sources (e.g. soy flour and/or isolate), suitable, minerals and vitamins, anti-oxidents, etc. Several different food-types can be formulated using the "creamy, corn base" as the starch and energy source. The flours can be enriched and flavoured to comply with local food legislation. Subjective "trials" with a broad spectrum of consumers vary from lactating mothers, very young boys and girls to HIV compromised members of the community, have shown dramatic results where the flour was used in composite meal replacers with a protein content of 19 to 22%, appropriate mineral and vitamin profiles as well as Moducare antioxidants, omega fats, etc.

Actions

Finances have been budgeted for the erection of a pilot-plant. Preliminary tests and marketing results are very promising. Different products with the cooked maize product as the carrier has been developed and are currently being tested in the local market. The product has been presented to many concerns/forums with much focus on youth development programs in RSA

Results

Plans are in action to run clinical trials at a recognised local university. Should all come to fruition, the behavioral issues of both HIV and the youth development programs will be addressed. The results will be published, brought to the attention of those responsible for youth leadership and child protection programes, government and educationalists/nutritionists involved with nutritional reform in RSA

**What will it take for your project to be successful over the next three years? Please address each year separately, if possible.**

Success will depend upon:

1. sort out all problems with large-scale production procedures
2. educate the public on the advantages of the product as well as initiate clinical trials using steam-cooked corn/maize vs maize/corn cooked by extrusion
3. formulate a diverse range of products with appropriate nutritional profiles for different market segments. Where possible the above steps will be combined to accelerate the project

**What would prevent your project from being a success?**

Lack of funds to promote the product locally and abroad.

**How many people will your project serve annually?**

More than 10,000

**What is the average monthly household income in your target community, in US Dollars?**

$100 - 1000

**Does your project seek to have an impact on public policy?**

Yes

Sustainability

**What stage is your project in?**

Operating for less than a year

**In what country?**

**Is your initiative connected to an established organization?**

If yes, provide organization name.

**How long has this organization been operating?**

Less than a year

**Does your organization have a Board of Directors or an Advisory Board?**

Yes

**Does your organization have any non-monetary partnerships with NGOs?**

Yes
Does your organization have any non-monetary partnerships with businesses?
Yes

Does your organization have any non-monetary partnerships with government?
Yes

Please tell us more about how these partnerships are critical to the success of your innovation.
As the product development of the cooked product progresses, the time frame to market and negotiate with other businesses becomes more important. Formulated and unformulated samples of the cooked product has been forwarded to several organizations. Iso-foods is awaiting the feedback of those organizations that show interest in the "new ingredient" and/or formulated product range - be they an enriched porridge, meal replacer, nutritional smear, beverage, etc.

What are the three most important actions needed to grow your initiative or organization?
1. Source funds to conduct intensive clinical trials using the maize prepared/cooked by steam infusion
2. Promote the range of products nationally
3. Erect a modern, large-scale facility capable of producing enough product according to the market needs

The Story

What was the defining moment that led you to this innovation?
The poor quality and availability of maize products on the local market - poor quality meaning bad sensory properties, texture and heavily contaminated with microbes.

Tell us about the social innovator behind this idea.
This innovator was willing to venture capital to try a small-scale cooker and probably had the vision for long-term opportunities and success.

How did you first hear about Changemakers?
Through another organization or company

If through another, please provide the name of the organization or company
The Solae Company

Source URL: https://www.changemakers.com/nutrition/entries/production-instant-maizecom-mealporridgeingredient#comment-0