



NutriNuts

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 #NutriNuts








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Partners

We

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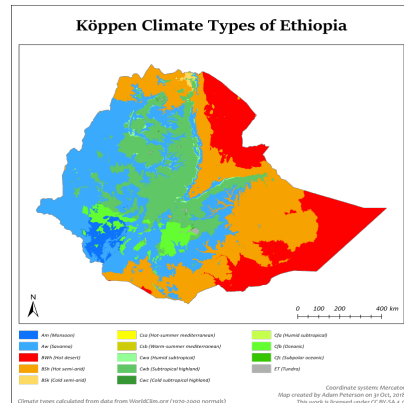
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Peanuts in Ethiopia

- Peanuts production: 13 ktonnes (2016)
- Produced by smallholder farmers
 - Agriculture is 85% country employment
 - With 21.5% population undernourished
- Aflatoxins and Peanuts:
- Aflatoxin occurrence in Ethiopian Peanuts:
 - 2 recent survey
 - >300 samples analysed
 - Total aflatoxins concentration: up to 12,000 ng/g of groundnuts
 - 3,000 fold above the maximum legal limit for groundnuts in the UK (4 ng/g),
 - 120,000 fold above the limit for baby foods (0.10 ng/g).
- Social Impact:
 - HepatoCelluloCarcinoma (HCC) incidence, 11th Cancer in Ethiopia, 0% survival rate.
 - £1,424M of Health service annually (estimated from Ghana values)



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Aflatoxins and Hilina Enriched Food PLC (HI)

- Established in 1998
- Produce food products
 - Main producer of Plumpy'nuts for undernourished people
 - Sell to NGOs, FAO, USAid
- Aflatoxins maximum limit 5 ng.g⁻¹
 - Challenges to source peanuts from local producers due to aflatoxins contamination.



Aim of the project: Mitigation of aflatoxin occurrence in Ethiopian peanuts used in therapeutic food products to reduce malnutrition in Africa.

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WP1/2: Pre and post-harvest Management

- Development of an integrative peanut production approach for Ethiopian farmers:

- Development of native biocontrol (viz. atoxigenic *A. flavus*) to be spread in the field
- improved farming system:
 - Good Agricultural Practices (GAP) to increase yields by approx. 30-50%.



Abdi Mohammed in a peanuts field in Ethiopia



- Development of alternative drying procedure
 - Reduction of aflatoxins risks
- Development of alternative shelling procedure
 - Mitigate the “soaking” and “teeth-based” procedures

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WP3: Transport

- Innovative sun-drying/respiration management transport to:

- protect the peanuts from heavy rain exposure
- promote peanut-drying during transport



WP5: Processing



- The process will be optimise by development of a new production line:
 - New product line
 - New sorting technique (UV-light, multi-spectral sorting)
 - Waste re-valorisation

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WP4: Development of the Sustainable Mycotoxin Management Centre



- The “Hub of mycotoxin knowledge” will be created at and hosted in Haramaya University (HU).
 - develop a research centre on mycotoxin evaluation in peanuts.
 - training courses designed for all the stakeholders of the NutriNuts project.

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Deliverables to do during the MSc thesis

- WP1: Pre-harvest
 - Report of the cultural practices and dvpmt of GAP
- WP2: Post-harvest
 - Report of drying/shelling practices and dvpmt of GD/SP
 - Proposal of new designs of shelling/drying device to test
- WP3: Transport
 - Report of current transport and dvpmt of GTP
- WP5: Process
 - Sorting/New Line/Waste current practices and advise
 - Marketing trials
- WP4: Transfer back the knowledge to the Hub
- Communication
 - #NutriNuts, Liaison with partners, dvp of training material, Gender equality angle.

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Applied Mycology Group

Deciphering mycological complexity



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References

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- Pictures thanks to Haramaya University and Hilina Enriched food.

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