

Date: 14 August 2021

Call for studies on Groundnuts and Aflatoxin

The Federation of Chambers of Agriculture and Animal Production, in collaboration with The Agricultural Research Station, El Obeid held a conference in Khartoum (24th June 2021). The theme of the conference was for promoting and developing the production, manufacture and marketing of peanuts in Sudan.

In addition to many sectors and corporations involved in the agricultural production and processing of peanuts in Sudan who were present in the conference, the Sudanese National Academy of Sciences (SNAS) participated with a presentation entitled:

“Establishing Sudanese Aflatoxin Research and Control Network (SAfNet)”

The proposal of SNAS is to establish a research network for cooperation between different multidisciplinary entities to combat fungi of *Aspergillus spp.* and aflatoxin contamination in peanuts and other agricultural products and to reduce the risks and damages on human and animal feed and health.

The objectives of the “SAfNet” are:

- Coordination of studies for improving agricultural production, harvesting, transportation, storage, processing, sales and safe consumption practices
- Collaboration among stakeholders to develop a meaningful action plan to reduce and control aflatoxin pollution
- Prioritize research and facilitate local and international links with academic institutions and funding agencies.

The present call is a follow up of the recommendations from the conference. The aim of the call is to encourage young researchers to develop studies addressing some of the problem issues of peanuts contamination with aflatoxin among the local Sudanese communities.

- How to apply:

- Applicants are requested to submit a short letter of intent (maximum 2 pages) describing their project ideas and briefly explaining their plan of work, using the attached application form.(Form 1)
- The committee will review the applications and select those which can be developed into complete study proposals for funding.
- The selected candidates will be invited to a one-day briefing (virtual) workshop for connecting the applicants and for joint discussions. Further information about the aim of the call to generate new ideas

and studies for assisting in reducing the risks of aflatoxins on human and animal health in Sudan will be presented.

d- Applicants are to submit a complete study proposal within **1 month** after the workshop (maximum 10 pages) containing the following details:

- Brief introduction of the research idea.
- Material and methods i.e. study area, target population, implementation of the study etc.
- Budget details & expenses
- Expected results and monitoring plan

Duration of projects:

- a- All studies are to be completed within **12 months**
- b- A detailed report of the achieved results and documents (with photographs) to be submitted at the end of the studies

Funding:

- Funding will be secured through the ‘Federation of Chambers of Agriculture and Animal Production’
- Each study will receive a sum of **\$5000 maximum** (equivalent in Sudanese SDGs)
- The grant money is to cover study expenses and time of the researchers in the field.
No salaries of personnel to be paid from the grant.
- Accurate receipts of the expenses to be submitted for auditing at the end of the projects.

- General conditions for applying:

- Principal investigator candidates will sign a contract with the organizers of the program
- Applications are to be submitted electronically using the attached form to the following e-mail:

Sudanese Network for Research and Control of Aflatoxin’ (SAfNet)

Aflatoxin Sudan aflatoxinsudan@gmail.com

Closing date for receiving letter of intent :

15th September 2021

- **The program will be managed by:**

DAR Consulting group

The following topics have been suggested for submitting research project applications:

- 1 - Conducting an educational campaign among communities about the risk factors associated with aflatoxin in human and animal food and environmental pollution by preparing information materials to raise awareness:

This is to be done by assessing the cognitive level of each target group and practices associated with peanut consumption in their diet such as:

- Make appropriate guidance publications of how to avoid the risk of aflatoxin toxins
- The risks of aflatoxin in human and animal foods
- How to recognize and remove affected peanuts to reduce aflatoxin contamination by manual/visual removal, preferably among women's communities.
- How to make safe and clean peanut butter (dakwa), packing and storage methods - whether for use at home or sold in peripheral markets, - target group: housewives, street vendors and in public places.
- Explain ways to safely pack and store peanuts to reduce pollution with *Aspergillus* /aflatoxin
- Encourage small industries to produce safely in agricultural areas such as the use of unbroken oilseeds, the use of clean containers, crop hygiene, etc.
- Do not move affected soil from production/agriculture places to storage areas, oil and other industries and peripheral markets

Educational packages must be:

- smart, clear and easy to understand
- use of attractive audio-visual means (with clear images and symbolic comments)
- language used is simplified and understandable
- targeting selected communities after evaluating their knowledge and practices.

- 2- Develop simple detection tools for use in the field:
 - To detect *Aspergillus* spp. fungi (*A. flavus* & *A. parasiticus*) in soil and storage areas.
 - To estimate levels of aflatoxin in agricultural products (such as peanuts and sesame) in the production areas and markets.
- 3- Creating a database (literary reviews) of research conducted on Sudanese studies on:
 - Peanut cultivation and its types/ regions in Sudan
 - Studies on the contamination of oilseeds with aflatoxin (peanuts, sesame, sunflower seeds, etc.)
 - Studies on pollution with fungal toxins in various agricultural products
- 4- Design and implementing:
 - Simple solar-powered dryers for use to dry grains after harvest such as peanuts, sesame and other products.
 - Design and construction of storage facilities for small farmers and traders with continuous follow-up to ensure proper use.
 - Maintenance and cleaning of used warehouses and painting with insulating materials.

- 5- Issuing a simplified guide for the cultivation of peanuts for traditional farms / small farmers - containing the correct method, dates of planting, harvesting, drying, packing and storage methods to reduce and prevent contamination by fungi and insects.
- 6- Cooperation and coordination for the safe disposal of infected products that contain high levels of toxins and not to be used in animal food, burial or discarding in water sources - to keep the environment clean.
7. Treatments using environmentally friendly and degradable substances to reduce:
 - Soil contamination with *Aspergillus* spp.
 - Contamination of agricultural products with aflatoxin