



Characterizing the Prevalence of Mycotoxins in Food and Feed of Western Nepal



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Project Activities

1. Establishment of Reference laboratory for analysis of mycotoxin at NAST, Khumaltar.

2. Sample Collection and Analysis at NAST Laboratory.

3. Hands on training on analysis of aflatoxin by ELISA for government organizations.

Workshops and meetings

1. Seminar on mycotoxin and workshop on scientific writing at IAAS,TU (2019).

2. Meeting for incorporation of mycotoxin in curriculum and research activities of universities of Nepal (2019).

3. Strategic Planning Dissemination workshop to address the issue of mycotoxin at Dhulikhel (Aug 2019).

4. Workshop on Risk communication at Bakhundol (2019).

Outcomes of Project

1. Nepali version of informative video on introduction of mycotoxin, it's health impact and mitigation measures in storage.(<https://www.youtube.com/watch?v=FLeGdITdPik>)

2. Incorporation of the issue of mycotoxin in annual program of NAST, Government of Nepal .

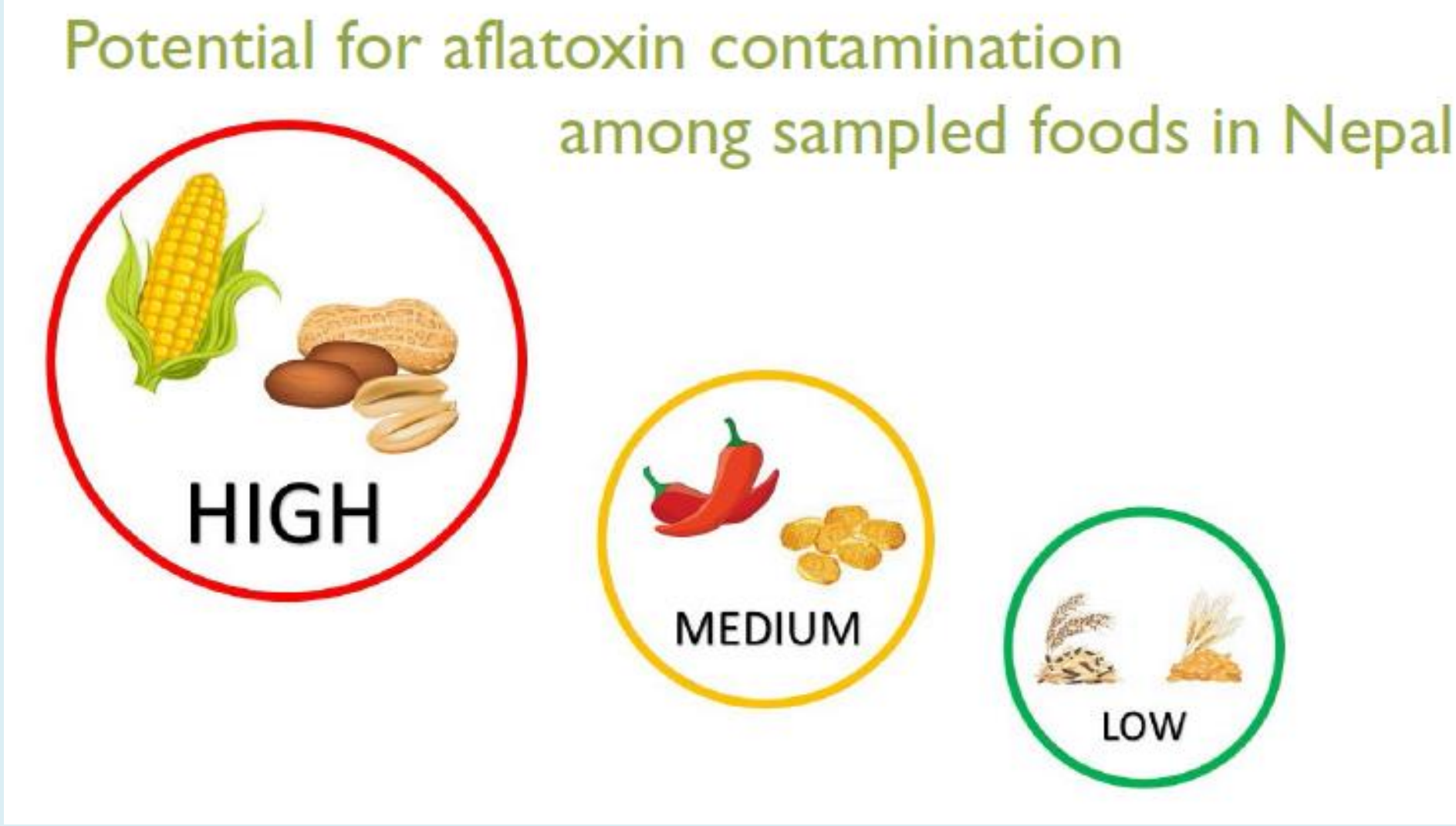
3. Webinar entitled Sensitization on Issue of Mycotoxin Contamination in Food and Feed in Nepal in collaboration with NAST Scientific Financial Aid Program 2076/77.

Results

Commodity	Total number of samples	% of Samples (≤LOD) ¹	% of Samples (>LOD and <Regulatory Limit) ²	% of Samples (>Regulatory Limit)	Aflatoxin range (Samples >Regulatory Limit)	Aflatoxin mean (Samples >Regulatory Limit)
Peanut ³	391	59	10	27	21–5,400 ppb	440 ppb
Maize	986	73	10	17	22–7,200 ppb	370 ppb
Soybean nugget	238	79	15	6	21–44 ppb	28 ppb
Chili	1028	81	15	4	21–130 ppb	38 ppb
Animal feed	262	70	27	3	58–650 ppb	240 ppb
Rice	165	93	5	2	22–25 ppb	24 ppb
Complementary food	123	87	12	1	39–39 ppb	39 ppb

- 1. LOD (limit of detection): 0.06 ppb to 3.3 ppb.
- 2. Regulatory limit: 20 ppb for aflatoxin in human food and 50 ppb for aflatoxin in animal feed.
- 3. Includes 13 samples with values >500 ppb. Peanut data were generated at NAST. All other data were generated/calculated at UNL.

Commodities	Max. Regulatory limit	Mycotoxin
Food (cereals), Pulses/legumes and raw nuts	20 ppb	Aflatoxin
Animal Feed	50 ppb	Aflatoxin (B1)



Regulatory level of aflatoxin in Nepal
Source: Nepal Gazette, 2001.

Acknowledgement

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Policy Recommendation of the Project

- Incorporation of the issue of mycotoxin in government policy.
- Establishment of mycotoxin testing lab in seven provinces.
- Incorporation of food safety issues posed by mycotoxins in secondary school and university curricula.
- Awareness about mycotoxin hazards and mitigation measures among farmers, consumers, agricultural traders, importers and exporters.

Collaboration Partners

