

AGENDA ITEM 11 OTHER BUSINESS AND FUTURE WORK

PROPOSAL FOR NEW WORK**DISCUSSION PAPER ON A MAXIMUM LEVEL FOR AFLATOXINS IN DRIED FIGS**

Prepared by Turkey

BACKGROUND

1. During the 38th session of Codex Committee on Food Additives and Contaminants (CCFAC), which was held from April 24 to 28, 2006, in The Hague, Turkey introduced the document of ‘Discussion Paper on the Development of a Maximum Level for Aflatoxins in Dried Figs’ contained in CX/FAC 06/38/40 and proposed that the Committee consider new work on the development of a Maximum Level for aflatoxins in dried figs and of a Code of Practice for the prevention and reduction of aflatoxin contamination in dried figs. The Committee agreed to establish an electronic working group led by Turkey, with the assistance of the European Community, France, Greece, United Kingdom, United States, WHO and INC in order to prepare a revised discussion paper on a maximum level for aflatoxin in dried figs, which includes i) additional information and data on the occurrence of aflatoxins in dried figs; ii) description of the difficulties in trade; and iii) an outline of a code of practice for the prevention and control of aflatoxin in dried figs and a project document for starting new work on the elaboration of a Code of Practice. The Committee also agreed to request that aflatoxins in dried figs be added to the JECFA Priority List insofar as some data are already available and that, furthermore, a request could be taken up in a JECFA Call for Data¹.
2. The Delegation of Turkey highlighted the revised document, ‘Discussion Paper on Aflatoxins in Dried Figs’ contained in CX/CF 07/1/20 at the 1st session of the Codex Committee on Contaminants in Food (CCCF), which was held from April 16 to 20, 2007 in Beijing. Many delegations supported the initiation of new work on the elaboration of a code of practice for the prevention and reduction of aflatoxin contamination in dried figs, but were of the opinion that it was premature to consider the need for a maximum level for aflatoxins in dried figs, which should be considered only after a code of practice had been developed and implemented in producing regions and countries².
3. During the 1st session, the Committee agreed to submit to the Commission, through the Executive Committee, the proposal of new work on a Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Dried Figs for the formal approval³.
4. At the 2nd session of the CCCF, which was held from March 31 to April 4, 2008, in the Hague, it was highlighted that dried figs had to be produced in accordance with the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1 – 1969) and the Recommended International Code of Hygienic Practice for Dried Fruits (CAC/RCP 3 – 1969) as well as the importance of GAPs and GMPs. The Committee discussed the Proposed Draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Dried Figs paragraph by paragraph⁴. The Committee agreed to forward the Proposed Draft Code of Practice to the 31st Session of the Codex Alimentarius Commission for adoption at Step 5/8 with the recommendation to omit Steps 6 and 7⁵.

¹ ALINORM 06/29/12, paras 210 – 212

² ALINORM 07/30/41, paras 118 – 119

³ ALINORM 07/30/41, paras 120 – 121 and Appendix XII

⁴ ALINORM 08/31/41, paras 150 – 151

⁵ ALINORM 08/31/41, para 163 and Appendix XI

5. At the 31st session of Codex Alimentarius Commission, which was held from June 30 to July 4, 2008, in Geneva, the Committee adopted a Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Dried Figs (N10-2007)⁶.

INTRODUCTION

6. Aflatoxins can occur in food and feed as a result of fungal contamination by moulds, primarily by *Aspergillus flavus* and *A. parasiticus* under warm and humid conditions. They are most likely to contaminate tree nuts (e.g., almonds, hazelnuts, pistachios, Brazil nuts, cashew nuts, walnuts, pecan nuts), ground nuts (e.g., peanuts), figs and other dried fruits, spices, crude vegetable oils, cocoa beans and maize⁷.

7. Aflatoxins are potent toxic, carcinogenic, mutagenic, immunosuppressive agents. Among 18 different types of aflatoxins identified, major members are aflatoxin B1, B2, G1 and G2. Aflatoxin M1 and M2, the hydroxylated metabolites of aflatoxin B1 and B2, may be found in milk and milk products obtained from livestock that has ingested contaminated feed. Aflatoxin B1 is the most frequent one present in contaminated samples and aflatoxin B2, G1 and G2 are generally not reported in the absence of aflatoxin B1. Dietary intake of aflatoxins arises mainly from contamination of maize and groundnuts and their products⁸.

8. Epidemiological, clinical, and experimental studies reveal that exposure to large doses (> 6000 mg) of aflatoxin may cause acute toxicity with lethal effect whereas exposure to small doses for prolonged periods is carcinogenic. The adverse effects of aflatoxins can be categorized into three general forms.

- Acute Toxicity
- Sub-acute Toxicity
- Chronic Toxicity

9. Acute toxicity is caused when large doses of aflatoxin are ingested. The principal target organ for aflatoxins is the liver. In correlation with the decrease in liver function, there is a derangement of the blood-clotting mechanism, icterus (jaundice), and a decrease in essential serum proteins synthesized by the liver. Other general signs of aflatoxicosis are edema of the lower extremities, abdominal pain, and vomiting. The most severe case of acute poisoning of aflatoxin was reported in north-west India in 1974 where 25% of the exposed population died after ingestion of the molded maize with aflatoxin levels ranging from 6250 to 15600 mg/kg. Aflatoxins are still a problem particularly in developing countries.

10. Chronic toxicity is due to long-term exposure of moderate to low aflatoxin concentration.

AFLATOXIN IN DRIED FIGS

11. Figs (*Ficus carica* L.), one of the sacred fruits, has been produced from the beginning of human history. It has high ecological adaptability and is widespread in Central Southern Asia, Southern Europe, Africa (Mediterranean coast and South Africa), America (California and Southern American Countries) and Australia. Because its fresh fruit was not suitable for transportation, fresh fig was known where it had been grown, whereas sun-dried fig fruit is being traded world-wide for centuries⁹.

12. Fig's annual average temperature is 18-20 °C but it requires a higher temperature (30 °C) during fruit ripening and drying in August and September. For getting a high-quality crop, the relative

⁶ ALINORM 08/31/REP and Appendix VII

⁷ Statement of the Scientific Panel on Contaminants in the Food Chain on a request from the European Commission on the effects on public health of an increase of the levels for aflatoxin total from 4 µg/kg to 10 µg/kg for tree nuts other than almonds, hazelnuts and pistachios. *The EFSA Journal* (2009) 1168, 1-11

⁸ Safety evaluation of certain food additives and contaminants, 31st, 46th, 49th, 56th and 68th Meeting of the JECFA

⁹ U. Aksoy, H.Z. Can, S. Hepaksoy, N. Şahin, İncir Yetiştiriciliği TUBİTAK Türkiye Tarımsal Araştırma Projesi Yayınları (Fig growing, Turkey Agriculture Research Project Publications) 2001

humidity must be around 40-50% during drying period. The pH value of the soil should be between 6.0 and 7.8^{9, 10}.

13. Where possible, MLs shall be based on GMP and/or GAP considerations in which the health concerns have been incorporated as a guiding principle to achieve contaminant levels as low as reasonably achievable (ALARA). On the other hand, the presence of contaminants is always undesirable in food but in many cases unavoidable¹⁰.

14. There are several factors that affect the aflatoxin formation in dried figs because the fruit structure, formation, harvesting, and drying of figs differs than other dried fruits. Not only because of the fig's high sugar content, aflatoxin contamination can also easily occur because it has a fleshy skin that provides little protection.

15. Caprification requires for fruit set especially for fig varieties that are commercially dried. Caprifigs should be healthy, free from fungi and should have plenty and live pollen grains and wasps (*Blastophaga psenes* L.). During pollination of female fig fruits by fig wasps, which pass their life cycle in caprifig fruits, *Fusarium*, *Aspergillus* spp and other fungi can be transported to the female fig fruits from the male fruits. Therefore, figs can be contaminated with fungi on the tree even before the ripening of fruit⁹.

16. Since the early 1960s different types of analytical techniques have been applied for the identification of aflatoxin-contaminated agricultural commodities. An early non-chemical screening test is the "bright greenish-yellow fluorescence (BGYF)" or "black light" test. Suspected samples (e.g., corn and figs) are inspected under a long-wave UV-lamp. The characteristic fluorescence under long-wave ultraviolet light (365 nm) is associated with the presence of kojic acid formed by aflatoxin producing fungi like *A. flavus* or *A. parasiticus*. The BGYF test indicates the growth of the fungi that may have resulted in the production of aflatoxins⁹.

17. Fifty fluorescent fig fruits were analyzed individually and the results revealed that 32% was free of aflatoxins and 68% had total aflatoxins varying between 5-3828 ppb. In 2000, fig fruit samples of Sarilop cultivar taken from the orchards/drying yards 47.9% of the samples had varying number of fluorescent figs and 34.2% of the samples with fluorescent figs had no aflatoxin contamination. In 2001, 64.8% of the samples contained fluorescent figs and 31.2% of these samples had no detectable levels of aflatoxin¹¹. Despite the higher external BGYF under Turkish conditions, in California, BGYF was more visible internally (after cutting open the fig) in products of Calimyrna (syn. Sarilop) variety. Higher percentages of external/internal BGYF were found for cull figs. Therefore, the authors report that although not as promising as originally hoped, BGYF may be useful to remove aflatoxin-contaminated figs for certain specific situations in California¹².

TOXICOLOGICAL EVALUATIONS

18. Aflatoxins were evaluated by the JECFA at its 31st, 46th, 49th and its 56th meetings (AFM1 only). At its 49th meeting in 1997, JECFA considered estimates of the carcinogenic potency of aflatoxin and the potential risks associated with their intake. At that meeting, no numerical TDI (Tolerable Daily Intake) was proposed since these compounds are genotoxic carcinogens. But the potency estimates for human liver cancer resulting from exposure to AFB1 were derived from epidemiological and toxicological studies. JECFA reviewed a wide range of studies conducted with both animals and humans that provided qualitative and quantitative information on the hepatocarcinogenicity of

¹⁰ Opinion of the Scientific Panel on Contaminants in the Food chain on a request from the European Commission related to the potential increase of consumer health risk by a possible of the existing maximum levels for aflatoxins in almonds, hazelnuts and pistachios and derived products, the EFSA Journal (2007) 446, 1-127

¹¹ Şahin, E. Sabır, 2003. Büyük ve Küçük Menderes Havzalarında Yetiştirilen Kurutmalık İncirlerde (*Ficus carica*) Aflatoksin ve Okratoksin A Varlığının, Dağılımının ve Kalite İlişkisinin Araştırılması EÜ Fen Bilimleri Enstitüsü (Research on Aflatoxin and Ochratoxin A Presence, Distribution and Relationship with Quality in Figs for Drying grown in Big and Small Meander Valleys Ege University Graduate School of Natural and Applied Sciences) (Unpublished Ph.D. thesis), İzmir, Turkey

¹² Doster MA, Michailides TJ, Production of bright greenish yellow fluorescence in figs infected by *Aspergillus* species in California orchards. Plant Disease, The American Pathological Society, June 1998, pp. 669 – 673.

aflatoxins. The Committee evaluated the potency of these contaminants, linked those potencies to estimates of intake, and discussed the potential impact of two hypothetical standards on peanuts (10 or 20 µg/kg) on sample populations and their overall risk. It was concluded that reducing the permitted quantity of AFB1 in peanuts from 20 µg/kg to 10 µg/kg would not result in any observable difference in rates of liver cancer⁸.

19. In the evaluation at its 68th meeting in 2008, the JECFA reported that Turkey is the main country producing dried fruits, covering approximately 63% of the world market. A large amount of data (40 822 individual data) was provided for dried figs at this meeting by Turkey for the 2003–2006 period. The actual mean concentration of AFT in dried figs from the main export country market is around 1.0 µg/kg. Setting MLs for AFT going from 20 to 4 µg/kg should result in mean concentrations approximately 2 times lower than the actual mean concentration of AFT (from 0.6 to 0.4 µg/kg vs 1.0 µg/kg). **The proportion of rejected dried fruit samples from the world market would be between 1% for an ML set at 20 µg/kg or 10 µg/kg and 3% for an ML set at 4 µg/kg⁸.**

20. In other words, based upon the large data sets on AFT concentrations in dried figs submitted at this meeting by Turkey, the most important producing country for dried figs (>40 000 data points), the Committee concluded that whatever the hypothetical ML scenario applied (no ML, 4, 8, 10, 15 or 20 µg/kg) to dried figs, there would be no impact on the overall dietary exposure to AFT (below 0.03%, equivalent to a dietary exposure of <0.01 ng/kg bw per day), and that the proportion of rejected samples from the world market could range between 1% and 3% for MLs at 20 µg/kg and 4 µg/kg, respectively⁸.

PRODUCTION, EXPORT AND IMPORT DATA FOR DRIED FIG

21. The production, export and import data for dried fig are given in Table 1, 2 and 3.

TABLE 1. World Production (Dried Fig-tonnes)

COUNTRIES	YEARS			
	2006/07	2007/08	2008/09	2009/10(*)
Turkey	60.393	43.500	42.500	56.590
Iran, Islamic Rep of	43.000	25.000	22.000	23.000
USA	12.000	13.100	11.000	12.000
Greece	12.000	10.000	8.000	9.000
Spain	3.500	5.000	4.500	5.000
Italy	5.000	4.000	4.000	4.000
TOTAL	135.893	100.600	92.000	109.590

(*) Estimated values. The value for Turkey reflects the result of the report of Evaluation Board for Harvest.

Source: Aegean Exporters' Associations and INC

TABLE 2. World Export (Dried Fig)

COUNTRIES	YEARS					
	2006		2007		2008	
	Tons	USD (1000)	Tons	USD (1000)	Tons	USD (1000)
Turkey	56.268	125.008	47.590	168.442	42.695	187.202
Iran, Islamic Rep of	7.776	17.424	n.a.	n.a.	n.a.	n.a.
Spain	6.134	9.442	4.765	8.461	n.a.	n.a.
USA	5.004	14.442	3.047	11.819	3.721	15.479

Syrian Arab Rep	4.922	3.886	2.894	2.799	n.a.	n.a.
The Netherlands	3.788	10.723	2.881	14.504	2.732	15.081
China	1.176	1.384	226	724	173	799
Greece	3.214	8.081	1.699	6.107	1.349	6.217
Germany	3.233	9.569	2.047	10.061	2.031	11.721
France	2.217	9.462	2.107	10.891	1.878	11.528
Italy	1.785	4.092	1.497	4.172	2.571	7.193
Others	9.729	23.350	9.650	29.204	9.806	37.421
TOTAL	105.246	236.863	78.403	267.184	66.957	292.640

Source: UN Comtrade

TABLE 3. World Import (Dried Fig)

COUNTRIES	YEARS					
	2006		2007		2008	
	Tons	USD (1000)	Tons	USD (1000)	Tons	USD (1000)
France	15.895	37.247	12.619	48.085	13.694	58.026
Germany	14.307	37.156	13.316	42.102	10.742	49.758
India	3.706	23.203	4.691	31.087	4.973	32.950
Italy	6.791	17.082	4.054	18.242	3.916	21.042
UK	6.401	16.636	5.486	19.580	4.312	18.809
Switzerland	3.433	10.602	1.459	6.695	3.097	16.878
Canada	3.652	10.858	3.212	11.369	3.418	13.346
Belgium	2.579	6.725	2.385	7.868	2.685	12.766
The Netherlands	3.693	10.664	2.968	12.155	2.709	10.481
Austria	2.751	7.227	2.530	9.154	1.960	9.897
USA	6.000	10.041	5.800	10.672	2.367	9.357
Others	36.640	73.378	35.601	91.642	67.729	99.402
TOTAL	105.848	260.819	94.123	308.653	121.601	352.712

Source: UN Comtrade

ANALYTICAL METHOD & SAMPLING

22. Aflatoxins may be very heterogeneously distributed within a lot, in particular in a lot with a large particle size, such as dried figs or groundnuts^{9, 10}. As the distribution of mycotoxins is generally non-homogeneous, sampling methods and analytical methods are important factors for the evaluation of a maximum level of aflatoxin in dried figs.

23. In Turkey, the LOD and LOQ for aflatoxin (AFB1 or T) in figs are set at 0.10 µg/kg and 0.30 µg/kg, respectively. The method used is the AOAC Official Method 999.07:2000¹³

OCCURENCE DATA

24. Some statistical assessments are given in Table 4, 5, and 6. If the total aflatoxin were 10 µg/kg, the rejected samples would be 4.98%.

¹³ AOAC Official Method 999.07 (2000). Aflatoxins and total aflatoxins in peanut butter, pistachio paste, fig paste and paprika powder. Immunoaffinity column-liquid chromatography with post-column derivatization. First action 1999. J AOAC Int. 83: 320.

TABLE 4: Distribution of levels for AFB1 and T in dried fig between years 2007 – 2009 in Turkey

Year	≠ sample	Proportion of samples with aflatoxins within indicated µg/kg range						
		Type	<LOD	>LOD-2	>2-4	>4-8	>8-10	>10
2007	3302	AFB1	67.11%	22.44%	4.06%	2.67%	0.55%	3.18%
		T	63.14%	23.41%	5.03%	3.06%	0.82%	4.54%
2008	3937	AFB1	58.72%	26.67%	5.51%	3.81%	1.04%	4.27%
		T	56.46%	23.19%	7.04%	5.21%	1.07%	7.04%
2009	2239	AFB1	75.26%	19.07%	2.37%	1.92%	0.27%	1.12%
		T	73.25%	17.78%	4.15%	2.10%	0.67%	2.05%
2007 – 2009	9478	AFB1	65.54%	23.39%	4.26%	2.96%	0.69%	3.14%
		T	62.75%	21.99%	5.65%	3.72%	0.90%	4.98%

TABLE 5: Calculation of the relationship between concentrations of AFB1 and T

Food Category	≠ sample (All)	≠ sample (> LOD)	R ²
Figs	9478	3529 (37.2%)	0.97

TABLE 6: Total RASSF number for dried fig exported from Turkey between years 2007 – 2009

year	≠ RASSF	≠ RASSF (>4-10 µg/kg)	≠ RASSF (decrease %)
2007	57	24	42
2008	96	55	57
2009	63	34	54

25. RASSF data between years 2007 – 2009 indicate that increasing the total aflatoxin limit from 4 to 10 µg/kg will decrease rejections by 42%, 57%, and 54%, respectively. Therefore, the decrease in consignments rejected would certainly have considerable economic impact on the commercial trade of dried fig (Table 6). If a consignment (approximately 20 tons) is rejected for aflatoxin level, the estimated economic impact will be nearly 35.000-40.000 \$.

26. The export season for Turkish dried figs starts from a date in the second half of September or at the very beginning of October. The first export party reaches European customs after one or two weeks. And the results of aflatoxin checks begin to be taken from the middle of October. Over 2/3rds of the crop is exported until the beginning of the following March. So, if we take into account the same periods of the last three seasons, we see that 216 RASSF for dried figs exported from Turkey were notified. If rejected consignment average numbers are 40 – 50, then the extra cost for the dried-fig producers will be nearly \$1.5 – 2.0 million for every year. If the aflatoxin limit is 10 µg/kg, then rejected consignment numbers will be decreased by 50%.

DIETARY EXPOSURE

27. This fruit is not consumed regularly as a part of a daily diet but is mostly consumed on special occasions such as Christmas. So, it is not consumed as much as are tree nuts and certainly not as widely used as an ingredient. In fact, fresh fig fruit is consumed locally throughout its production zone from the Tropics to cold temperate areas. The consumption of dried fig is lower than fresh fig (Table 7).

TABLE 7: Consumption in g/day for figs as given by 13 GEMS/Food Consumption Cluster Diets, 2006

	A	B	C	D	E	F	G	H	I	J	K	L	M
Figs	0,1	2,7	4,4	0,3	0,7	0,6	0,0	0,1	0,0	0,0	0,2	0,0	0,4
Dried figs	0,0	0,6	0,4	0,0	0,2	0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,1

28. The mean contribution to dietary AFT exposure from consumption of almonds, Brazil nuts, hazelnuts, pistachios and dried figs ranged from 0 ng/kg bw per day (clusters A, G, I and J; nut consumption reported as zero for these clusters) up to 0.8 ng/kg bw per day (clusters B and D). In five cluster diets (B, C, D, E and M), the contribution from almonds, Brazil nuts, hazelnuts, pistachios and dried figs was higher than 5% of the overall dietary exposure to AFT. Mean dietary exposures for all other cluster diets from tree nuts (including dried figs) were below 0.1 ng/kg bw per day⁸.

29. The Committee employed the 13 GEMS/Food Consumption Cluster Diets to make international estimates of dietary AFT exposure from all sources. These were estimated to range from 0.4–0.7 ng/kg bw per day (cluster K) to 3.0–3.7 ng/kg bw per day (cluster J), by assuming a body weight of 60 kg and using the lower-bound / upper-bound approach. The mean total dietary exposure to AFT from maize, groundnuts, oilseeds and cocoa products made the greatest contribution to total exposure in all cluster diets. It is reported that dried fig is not found within this category. Dietary AFB1 exposure ranged from 0.3–0.5 ng/kg bw per day to 2.3–2.8 ng/kg bw per day for the same clusters⁸.

REGULATORY LEVELS FOR AFLATOXIN IN DRIED FIG

30. On a worldwide basis, at least 99 countries had mycotoxin regulations or guidelines for food and/or feed in 2003 in force. The aflatoxin regulations are often detailed and specific for various foodstuffs, for dairy products and for feedstuffs. Regarding AFB1, the worldwide accepted levels in food range between 1 and 20 µg/kg¹⁰.

31. With respect to the sum of aflatoxins B1, B2, G1 and G2, the worldwide accepted levels range between 0 and 35 µg/kg. A maximum limit of 20 µg/kg for the sum of aflatoxins B1, B2, G1 and G2 was harmonized by MERCOSUR (Mercado Común del Sur, Southern Common Market), a customs union between Argentina, Brazil, Uruguay, Paraguay and Venezuela, and is meanwhile applied in a total of 17 countries, with half of them in Latin America. Also, the United States follows this 20 µg/kg ML¹⁰.

32. In Turkey, the maximum level for aflatoxin in dried fig has been implemented as 10 µg/kg for total amounts.

33. In turn, the European Union has established its maximum level as 2 µg/kg for B₁ and 4 µg/kg total for dried fruit and processed products thereof, where intended for direct human consumption or use as an ingredient in foodstuffs; and as 5 µg/kg for B₁ and 10 µg/kg total for dried fruit to be subjected to sorting, or other physical treatment, before human consumption or use as an ingredient in foodstuffs.

CONCLUSIONS AND RECOMMENDATIONS

34. Typically, throughout the world, developing countries and other countries in the Mediterranean region have numerous small farmers, while in developed countries like the U.S. there are a few large-scale farmers. If the number of dried-fig producers in countries such as Iran, Egypt, Morocco can be included, it is clear that the number is increased even further. World production of dried figs and nearly half of exports is carried out from Turkey; and, worldwide, the number of farmers who produce dried figs is assumed to be at least 60,000. In addition, in Turkey, if the seasonal and permanent workers working in fig businesses and the garden are taken into account, it can be assumed that in addition to 30,000 manufacturers at least 40,000 people derive income from this product.

35. Therefore, according to the above-mentioned outlines, a possible CODEX maximum level for aflatoxins in dried fig should be set.

36. Prevention of aflatoxin contamination is more difficult in dried figs than in tree nuts. As mentioned above, during both the growth and harvesting of figs, the risk of aflatoxin formation is increased. But there is an opportunity to lower the aflatoxin concentration in the fig lots during processing. Firstly, culls are removed at harvest or before processing. Then, all dried figs are passed through the long-wave UV lights and BGYF fruits are separated. This quality control means that more than 1.00% of each lot is separated and destroyed as hazardous waste in Turkey (Table 8).

TABLE 8: Overall mean BGYF fruit ratio (%) and total amount collected and destroyed

Season	BGYF figs (%)	Total amount destroyed (tons)
2006/7	1.2	730.000

2007/8	1.25	494.000
2008/9	1.0	418.000
2009/10	0.8	280.000*

(*): The number as of March 15th, 2010.

Source: Aegean Exporters' Associations

37. The frequency and level of aflatoxin contamination shows variations according to yearly climatic conditions. Drought and excessive rain during maturation and drying period seem to trigger toxin formation. In this respect, farmers are trained in how to mitigate drought under rain-fed conditions and in good practices during harvesting, drying and storage.

38. Turkey is the main country producing dried fig. CAC/RCP3-1969 has been already used and CAC/RCP 65-2008 has been translated into Turkish and applied in dried fig producing Region for two years.

39. In accordance with 13 GEMS/FOOD Diet cluster data, the consumption of dried fig is lower than nuts. Therefore, the MLs in dried fig should be easily set.

40. To ensure that all climatic and agricultural conditions are taken into consideration, especially in newly-emerging producing countries, it is appropriate that all such dried-fig producing countries participate in the working group that is considering and drafting a maximum level for aflatoxin in dried figs.

PROJECT DOCUMENT

**PROPOSAL FOR NEW WORK ON
A MAXIMUM LEVEL FOR TOTAL AFLATOXIN IN DRIED FIG****1. The purpose and scope of the project**

This project aims to establish a maximum level for total aflatoxin in ready-to eat dried figs.

2. Relevance and timeliness

Aflatoxins were evaluated by the JECFA at its 31st, 46th, 49th and its 56th meetings (AFM1 only). At its 49th meeting in 1997, JECFA considered estimates of the carcinogenic potency of aflatoxin and the potential risks associated with their intake. In the evaluation at its 68th meeting in 2008, the JECFA reported that Turkey is the main country producing dried figs, covering approximately 63% of the world market. The proportion of rejected dried figs samples from the world market would be between 1% for an ML set at 20 µg/kg or 10 µg/kg and 3% for an ML set at 4 µg/kg.

“A Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Dried Figs (N10-2007)” was adopted by the Codex Alimentarius Commission at its 31st Session. Therefore, there is a need for an international regulatory level, based upon scientific evidence, having as its goal the protection of human health with a minimum of economic impact on international trade.

3. The main aspects to be covered

It is proposed to discuss establishing a maximum level for total aflatoxin in ready-to-eat, dried figs, considering the following:

- a) Toxicological evaluations of aflatoxin by JECFA and EFSA
- b) Occurrence data in dried figs between years 2003 – 2006
- c) Updated occurrence data in dried figs between years 2007 – 2009
- d) Consumption in g/day for figs as given by 13 GEMS/Food Consumption Cluster Diets in 2006

4. Assessment against the criteria for the establishment of work priorities

1. Consumer protection from the point of view of health, food safety, ensuring fair practices in food trade and taking into account the identified needs of developing countries.

The new work will establish a maximum level for total aflatoxin in dried figs.

2. Diversification of national legislations and apparent resultant or potential impediments to international trade.

The new work will provide an internationally-harmonized standard.

International market potential has been increasing.

5. Relevance to Codex Strategic Goals

The proposed work falls under the following Codex Strategic Goals:

Goal 1. Promoting sound regulatory frameworks

The result of this work will assist in promoting sound regulatory frameworks in international trade by using scientific knowledge. With a view to promoting maximum application of Codex standards, this work will provide harmonized regulations for developed and developing countries, leading to enhanced fair trade.

Goal 2. Promoting widest and consistent application of scientific principles and risk analysis

This work will help establish risk-management options based upon scientific evaluation.

Goal 3. Strengthening Codex work-management capabilities

The establishment of a maximum level for total aflatoxin in dried figs is a way to manage risks associated with the consumption of highly-contaminated food.

Goal 4. Promoting maximum application of Codex standards

Due to the international nature of this problem, this work will support and embrace all aspects of this objective by requiring participation of both developed and developing countries to conduct the work.

6. Information on the relationship between the proposal and other existing Codex documents

This new work is recommended in the Discussion Paper on a Maximum Level for Aflatoxins in Dried Figs presented and discussed at the 4th Session of Codex Committee on Contaminants in Foods.

7. Identification of any requirement for any availability of expert scientific advice

It is not yet foreseen.

8. Identification of any need for technical input to the standard from external bodies

Occurrence data on and evaluation of aflatoxin limits are reported by EFSA in 2007 and JECFA in 2008.

9. The proposed time line for completion of the new work, including the starting date, proposed date for adoption at Step 5 and the proposed date for adoption by the Commission

Subject to approval by the Commission, the proposed draft Maximum Level for Total Aflatoxin in Dried Figs will be considered by the 5th Session of the CCCF with a view to its finalization in 2012.