

ESTIMATION OF THE AFLATOXIN CONTAMINATION (TYPES B1+B2 AND G1+G2) ON THE PISTACHIO NUT BY THIN-LAYER CHROMATOGRAPHY AND U.V.

RADIATION (1)

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SUMMARY

Of the 121 samples obtained from the Rafsandjan area in 1975, no contamination by aflatoxin B1+B2 and G1+G2 were found. But in 1976, 12 samples out of a total of 108 analysed from the same area were found to be contaminated by B1+B2 aflatoxin.

Procedure:

With the sponsorship of the Tropical products Institute, B.D. Jones (1972) reported the various methods for the analysis of food and feed-stuffs for aflatoxin. The methods which we used for the pistachio nut are as follows:

I- Extraction;

The C.2.1 method was used with the following modifications:

1- Diatomaceous earth was 12.5 gr.

2- Filtration was carried out by Buchner funnel with Whatman No. 1 filter paper, but without the diatomaceous earth.

II- Clean up;

The D.2. Column chromatography method was used with silica-gel of 0.063- 0.200 mm, instead of 0.05-0.2 mm.

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- III- Preparation of thin-layer chromatography plates;
 The E.1.1. (a) method was used with the following modifications:
 1- Water was 200 ml
 2- Shaking time was 2 min.
- IV- For confirmatory test of aflatoxin, the plates were put in the diethyl ether tank for a second time.
- V- The U.V. producer was Camag Typ. TL-900/u with a wave length of 0.35 microns.

REFERENCES

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SUMMARY

Of the 121 samples obtained from the Katsamban area in 1972, no contamination by aflatoxin B₁+B₂ and G₁+G₂ were found. But in 1976, 12 samples out of a total of 108 analysed from the same area were found to be contaminated by B₁+B₂ aflatoxin.

With the sponsorship of the Tropical Products Institute, B.D. Jones (1972) reported the various methods for the analysis of food and feed-ingredients for aflatoxin. The methods which we used for the pignocchio nut are as follows:

- I- Extraction:
 The C.2.1 method was used with the following modifications:
 1- Dioxane:acetone ratio was 1:2.5 gr.
 2- Filtration was carried out by Buchner funnel with Whatman No. 1 filter paper, but without the dioxane:acetone ratio.
 II- Clean up:
 The D.2. Column chromatography method was used with silica-gel of 0.063-0.200 mm, instead of 0.075-0.2 mm.

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