

REQUEST FOR TECHNICAL ASSISTANCE

Submission by Jordan

Within the context of Jordan's fulfilling its obligations to the WTO in relation to Jordan's commitments under the SPS Agreement, efficient implementation of the Agreement is essential. Consequently, sufficient and high standard laboratory analysis need to be made available in order to ensure the imported and exported food stuff are safe and healthy and of high quality.

In view of the MOH responsibilities for the quality and safety of foods under the SPS Agreement, a recent assessment review was made of the Ministry of Health Food Testing Laboratory in Aqaba by a consultant for the Amir programme. AMIR is a USAID-funded activity to, among other things, assist Jordan in meeting the requirements of the WTO with special emphasis on the SPS Agreement. The purpose of the review was to evaluate the present analytical capabilities of the laboratory and to identify and recommend possible improvements as well as new or expanded analytical work.

Therefore, technical assistance is needed in the following areas under the operation of the Ministry of Health:

- Instruments: analytical measuring devices
- Equipment: processing devices

Instruments and Equipment Priorities for Purchase

Introduction

The Port of Aqaba on the Red Sea is the only direct access that Jordan has to foods and other international goods that are transported by ship. The Port is essentially the centre of world trade for Jordan and is therefore of prime importance to the Jordan national economy. The majority of import foods to Jordan arrive through the port of Aqaba. The Aqaba Ministry of Health (MOH) Laboratory is almost exclusively devoted to testing foods imported through the Port.

Background

Jordan became a member of the World Trade Organization (WTO) in April 2000. Membership includes acceptance to abide by the requirements of the WTO Agreements on Sanitary and Phytosanitary (SPS) measures as well as Technical Barriers to Trade (TBT). Article 7 of the draft Jordanian Law of Agriculture For The Year 2000 lists the objectives of the SPS measures to be taken by the government under the WTO SPS Agreement. Included is the protection of human and animal health from risks resulting from additives, contaminants, toxins or disease-causing organisms in agricultural products (human foods or animal feeds). In Jordan, the MOH has the statutory responsibility for ensuring the quality and safety of food and is therefore the lead agency in enforcing that specific SPS measure as it relates to human food.

At the present time, the MOH laboratories in Aqaba and Amman do all import and domestic food quality and safety examinations except for pesticide residues. They do not have the capability to examine for such residues and therefore refer those samples to the Ministry of Agriculture (MOA) Pesticide Residue Laboratory in Al-Baqa, outside of Amman.

In view of the MOH responsibilities for the quality and safety of foods under the SPS Agreement, a recent assessment review was made of the MOH Food Testing Laboratory in Aqaba by a consultant for the AMIR programme. AMIR is a USAID-funded activity to, among other things, assist Jordan in meeting the requirements of the WTO with special emphasis on the SPS Agreement. The purpose of the review was to evaluate the present analytical capabilities of the Laboratory and to identify and recommend possible improvements as well as new or expanded analytical work.

Needed instruments and equipment

A number of the review recommendations concerned instruments and equipment needed for improvement and necessary expansion of work. (In this context the term 'instruments' refers to analytical measuring devices such as chromatographs, balances, etc. and the term 'equipment' refers to processing devices such as ovens, blenders, etc.).

The following is a prioritized listing of both instruments and equipment that are recommended for purchase for the MOH Aqaba Food Testing Laboratory, with a brief reason given for each. Items of equipment that are replacements for existing non-operational devices are so noted. The recommended instruments and equipment can be used within the existing facility and with the present staff. It will be, however, necessary to provide training for the staff in the theory and operation of the more sophisticated instruments. Those will be identified with an asterisk (*).

Instruments

1. A high performance liquid chromatograph (HPLC)(*) with gradient elution capability and with a fluorescence detector. Purchase should include an assortment of columns and a recording device, as well as filtering and degassing equipment for the solvents used. (For the determination of aflatoxins residues).
2. A second HPLC as above (*) except with a UV/visible variable wavelength detector. (To be used for various food and colour additives).
3. A gas chromatograph (GC) (*) with a flame ionization detector and a recording device. This should include columns, syringes etc. (Permits rapid analysis of many additives and some food contaminants).
4. A can seam saw and a can seam examination device for measuring tightness of can seams. No training course would be needed as an analyst in the laboratory is familiar with the device and could train the others. (Can seams with microleaks can be a problem especially from exporting countries with poor seaming equipment).
5. Two analytical balances sensitive to 0.1 mg. (These are not presently available and are necessary for accurate weighing of standards and other materials).
6. Four top-loading electronic balances. (For routine sample weights and other work).

Equipment

1. A bench-top laminar-flow hood for installation in the Microbiology Laboratory. (This will provide a needed sterile work area in which to streak plates or make culture transfers).
2. A graphite furnace for the existing atomic absorption spectrometer. (To replace the present non-functioning unit). This should include a new water-cooling pump.
3. A muffle furnace. (For dry-ashing of metals residue samples and to replace the present non-functional unit).
4. A second bench-top laminar-flow hood for the Meat and Fish Laboratory. (For their microbiological examinations).
5. A high-speed centrifugal homogenizer such as that manufactured by Reisch GmbH of Germany. (For processing high oil content foods such as sesame seed, for aflatoxin analysis).
6. A vacuum oven. (For moisture determinations and to replace the present non-functional unit).
7. A reverse-osmosis water purification unit. (For routine pure water needs).
8. Two blenders with cups. (For sample preparation).

Item No.	Equipment	Quantity	Price (JD)*
1	HPLC	2	120,000
2	Gas chromatograph	2	40,000
3	Atomic absorption	1	60,000
4	Rotary evaporator	6	15,000
5	Moisture determination balance	4	10,000
6	High speed centrifuge homogenizer	4	30,000
7	Vacuum oven	2	2,000
8	Biological safety cabinet	4	40,000
9	Laminar flow hood	3	20,000
10	Muffle furnace	4	5,000
11	Analytical balance	6	12,000
12	Top loading balance	6	6,000
13	Food cutting device	4	2,500
14	Food chopping device	4	400
15	Cutting mill	4	36,000
16	Steam bath for solvent concentration	2	1,400
17	Hot air oven	20	20,000
18	Incubator	10	10,000
19	PH	6	2,000
20	Water bath	8	6,000
21	Vacuum pump	10	10,000
22	Hot plate	10	5,000
23	Blender (mixer)	10	2,000
24	U.V. cabinet	4	2,000
25	Trip balance	2	300
26	Can opener	6	1,500
27	Shaker Vortex	5	75

Item No.	Equipment	Quantity	Price (JD)*
28	Spectrophotometer	2	40,000
29	Anaerobic jars (stainless steel)	6	2,000
30	Rotary shaker unit with	4	2,000
	(a) shaker heads for test tube	4	1,000
	(b) shaker heads for flasks or bottles	4	1,000
31	Kjeldahl unit	2	3,000
32	Sox Helet (fat determination) unit Extraction unit	2	3,000
33	Stomacher	3	5,000
34	Fume hood	3	9,000
35	Radiation apparatus	2	4,000
36	Stereoscopic microscope	4	3,000
37	Binocular microscope	2	2,000
38	Colony counter (electronic)	2	3,000
39	Mercury analyser	2	10,000
40	Fibre determination unit	2	3,000
41	Refrigerators	10	5,000
42	Deep freezer	10	13,000
43	Autoclaves	4	4,000
44	Microwave oven	2	2,000
45	Refracto meter	2	2,000
46	Calibration weights	4	3,000
47	Electronic digital stop-watches	2	2,000
48	Stainless steel racks	16	200

*1JD = US\$1.41