# PROVISIONAL GUIDELINES ON TENDER PROCEDURES FOR THE

PROCUREMENT OF PESTICIDES



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

#### PROVISIONAL GUIDELINES ON

#### TENDER PROCEDURES

FOR THE

PROCUREMENT OF PESTICIDES

#### Acknowledgement

This is to acknowledge with appreciation the valuable input to these Guidelines by the Task Force of GIFAP and participating representatives of the AGROPOLIS/MCP, EC, DEH, GTZ, USAID, the World Bank, and NGOs.

These Guidelines have been published as *provisional* as they have not yet received approval by the member countries of FAO. In view of the sgnificant interest expressed in the course of their development it was decided to make the present version available. Interested parties are invited to provide written comments to FAO based on their experience in the implementation of these Guidelines. these comments will be considered in the final version of these *provisional* Guidelines.

Chief
Plant Protection Service
Plant Production and Protection Division
FAO
Viale delle Terme di Caracalla
00100 Rome, ITALY
Telex: 610181 FAO I

Facsimile: 52256347

#### TABLE OF CONTENTS

## PROVISIONAL GUIDELINES ON TENDER PROCEDURES FOR THE PROCUREMENT OF PESTICIDES

		<u>Page</u>				
1.	INTRODUCTION	1				
2.	DEFINITIONS					
3	PROCUREMENT OF HAZARDOUS PESTICIDES					
4.	DOCUMENTATION INVITING TENDERS	3				
	4.1. General Considerations	3				
	4.2. Further Information to be Provided to Potential Suppliers for Submission of Tenders	4				
	4.3. Suggested Format for Documentation Inviting the Submission of Tenders for the Supply of Pesticides	6				
5.	CONDITIONS TO BE LISTED IN TENDER INVITATIONS AND TO BE ATTACHED TO THE SUBMISSION OF BIDS	6				
	5.1. General Conditions	6				
	5.2. Conditions Relating to Bidders	7				
	5.3. Conditions for the Quality of Individual Products Offered	7				
	5.4. Conditions for Packaging	9				
	5.5. Conditions for Labelling	9				
6.	PROCESSING OF TENDER DOCUMENTS	10				
	6.1. General Requirements	10				
	6.2. Organizational Requirements	10				
	6.3. Procedural Requirements	11				
7.	ARRANGEMENTS FOR SUPPLY OF PESTICIDES	11				
8.	SAMPLING AND ANALYSIS	11				
9.	CONTROL MEASURES AND REQUIREMENTS	12				

		Page
Annex I	SUGGESTED FORMAT FOR DOCUMENTATION INVITING COMPETITIVE BIDS BY WAY OF TENDER FOR THE SUPPLY OF PESTICIDES	15
	I General Conditions	16
	II Details of, and Specifications for, Products for which Bids are Invited	17
	III Specific Conditions Relative to Individual Products	17
Annex II	Form A: SPECIMEN QUOTATION	19
Annex III	FORMAL RESPONSE TO A TENDER INVITATION - SPECIMEN	21
	<u>Form B:</u> CHECKLIST OF DATA, DOCUMENTATION, EVIDENCE, ATION, STATEMENTS AND UNDERTAKINGS TO BE PROVIDED	23
	I General Requirements	23
	II Requirements for Each Individual Product Offered	23
REFERE	NCES	27

#### 1. INTRODUCTION

In most developing countries, agriculture has been identified as a priority area for development. Pesticides continue to be essential inputs in agriculture and food storage practice. They are also essential to public health programmes. A number of potential problems associated with the use of pesticides can be avoided by promoting their effective and safe distribution and use. It is particularly important that pesticides made available in developing countries are of acceptable quality and are suitably packaged and labelled. Pesticides are generally purchased either as ready-to-use products or in bulk for local formulation and/or packaging. Large quantities are often procured through national or international tender procedures. Pesticides may also be provided to particular countries by donor agencies in support of agricultural, locust control, livestock or public health projects, either through local agricultural, plant protection or public health services, or directly to the projects concerned. Such pesticides may be sold at local market prices, at subsidised prices, or in certain cases be provided free to farmers or other users.

It is recognized that many developing countries which purchase pesticides or receive them by way of donations do not have an effective pesticide registration and control scheme in operation. They often do not have the facilities necessary for the analysis of pesticides to determine their quality. Consequently, such countries are not in a position to verify the composition and quality of pesticides offered for distribution, sale and use within their territories. In many developing countries, official recommendations relating to pest control measures for specific crop/pest combinations have yet to be elaborated. The "International Code of Conduct on the Distribution and Use of Pesticides" (1) has been elaborated to minimise the impact of such shortcomings and to assign responsibilities to various parties concerned. It is essential that such parties adhere to the provisions of the Code. It is especially important that procurers of pesticides make themselves aware of and comply with national decisions regarding importation and use of pesticides included in the Prior Informed Consent Procedure, particularly in countries which do not have a pesticide registration scheme. In countries having pesticide registration systems, procurers of pesticides shall adhere to the registration requirements of the country concerned and supply only those pesticides which are registered or can be registered.

The Tender Guidelines are intended to provide guidance to both suppliers and procurers of pesticides, on the steps to be taken to ensure that pesticides obtained are of the required quality and are suitably packaged and labelled, taking into account local transport and warehousing facilities. The guidance provided is relevant to all procurement agencies - government agencies, donor agencies or other organizations and private procurers, regardless of whether the pesticides concerned are for use by farmers or others. The guidelines are designed to facilitate avoidance of problems commonly encountered in developing countries, such as supply of sub-standard and inappropriate formulations, contained in unsuitable packaging of poor quality and with inadequate labelling. Consequences arising from supply in sub-standard or inappropriate packaging with inadequate labelling include leakage or degradation of contents, and the provision of insufficient or inappropriate information for the guidance of those using pesticides. Compliance with these guidelines should ensure that only pesticides of the appropriate quality are purchased, that there is little wastage through unnecessary supply or oversupply of any particular product, and that problems of misuse, prolonged storage, and disposal of unwanted pesticides are minimized.

In the case of particular countries in which well-run re-packaging facilities, capable of ensuring the homogeneity of re-packaged material in suitable containers, have been established, pesticides may be imported in bulk. Similarly, in countries where well-run formulation facilities exist, technically active ingredients suitable for local formulation may be imported. In such cases, the minimization of costs, or other considerations, must not be permitted to compromise the quality of the product, the quality of packaging or the quality of labelling (2,3,4,5). It is also essential that precautions be taken to ensure the safety of workers in such facilities (4,5,6).

While the precise details of the procedures for the procurement and supply of pesticides may vary from country to country, from one organization to the next, and between donors, certain basic principles and practices are of fundamental importance and are germane to all procurement. Therefore, these Guidelines, on the basis of the International Code of Conduct on the Distribution and Use of Pesticides (1), address the basic principles and practices to be followed by those procuring and supplying pesticides. The responsibilities of procuring agencies and suppliers, as well as the responsibilities of manufacturers, packers, transporters and personnel involved in storage and handling of pesticides, are also addressed.

Any procurer using these Guidelines must ensure that the use of the Guidelines and any changes in his country's pesticide procurement procedures as proposed in these Guidelines are compatible with national laws.

It is essential that the agencies responsible for the procurement of pesticides consider the various factors involved in making available effective pesticides of appropriate quality and stability, suitably packaged and labelled, to facilitate safe handling, transportation, storage and use under local conditions. Suppliers must ensure that only pesticides of the required quality, suitable for use under local conditions, are supplied. The authority responsible for final storage and supply to end users must ensure that proper records of receipt and release of pesticides are maintained and that good storage management practices are followed (e.g. pesticides purchased earlier are used first). Such practices minimize the accumulation of unusable pesticides (6).

Where a pesticide to be procured contains an active ingredient which is produced by only one manufacturer and alternatives do not exist, direct purchase of the required product may be preferred to purchase on the basis of tendering arrangements. In such cases, enquiries should be made to establish the prices paid by other purchasers of the product in previous years and/or in similar markets, to ensure that the price being quoted is a fair one, taking into account the quantity being ordered and delivery requirements.

#### 2. **DEFINITIONS**

For the purpose of these Guidelines the following terms, as defined in the "International Code of Conduct on the Distribution and Use of Pesticides" (1), are used.

**Pesticide** means any substance or mixture of substances intended for preventing, destroying or controlling any pest, including vectors of human or animal disease, unwanted species of plants or animals causing harm during or otherwise interfering with the production, processing, storage, transport, or marketing of food, agricultural commodities, wood and wood products or animal foodstuffs, or which may be administered to animals for the control of insects, arachnids or other pests in or on their bodies. The term includes substances intended for use as a plant growth regulator, defoliant, desiccant, or agent for thinning fruit or preventing the premature fall of fruit, and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport.

Active ingredient means the biologically active part of the pesticide present in a formulation.

Common name means the name assigned to a pesticide active ingredient by the International Standards Organization or adopted by national standards authorities to be used as a generic or non-proprietary name for that particular active ingredient only.

**Formulation** means the combination of various ingredients designed to render the product useful and effective for the purpose claimed - the form of the pesticide as purchased by users.

**Label** means the written, printed or graphic matter on, or attached to, the pesticide, or the immediate container thereof and the outside container or wrapper of the retail package of the pesticide.

**Packaging** means the container together with the protective wrapping used to carry pesticide products via wholesale or retail distribution to users.

**Prior Informed Consent (PIC)** refers to the principle that international shipment of a pesticide that is banned or severely restricted in order to protect human health or the environment should not proceed without the agreement, where such agreement exists, or contrary to the decision of the designated national authority in the participating importing country.

**Prior Informed Consent Procedure (PIC Procedure)** means the procedure for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of pesticides that have been banned or severely restricted. A specific procedure was established for

selecting pesticides for initial implementation of the PIC procedures. These include pesticides that have been previously banned or severely restricted as well as certain pesticide formulations that are acutely toxic. This procedure is described in the document - Guidance for Governments (7).

**Product** means the pesticide in the form in which it is packaged and sold; it usually contains an active ingredient plus adjuvants and may require dilution prior to use.

**Registration** means the process whereby the responsible national government authority approves the sale and use of a pesticide following the evaluation of comprehensive scientific data demonstrating that the product is effective for the purposes intended and not unduly hazardous to human or animal health or the environment.

#### 3. PROCUREMENT OF HAZARDOUS PESTICIDES

- 3.1. Pesticide formulations that fall into Class 1a or 1b of the WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification (8) usually have severe use restrictions in developed countries; in general they can only be used by specially trained and certified applicators. Such pesticides should not be used by small farmers or untrained and unprotected workers in developing countries. Exceptions may only be granted under extenuating circumstances such as a demonstrated need where no suitable alternative control measures exist (e.g. certain fumigants and rodenticides), provided that adequate precautions can be taken for safe handling and that use will occur under strictly controlled and supervised conditions involving trained operators.
- 3.2. Although pesticide formulations in WHO Class 2 are less hazardous than those in Class 1, precautionary methods proven effective under field conditions in developing countries are required. Therefore, pesticide formulations in WHO Class 2 should only be provided if it can be demonstrated that users adhere to the necessary precautionary measures (9).
- 3.3. The procuring agency may require, as a condition of the contract for the supply of such formulations, that there be adequate supervision at all stages of transport to the final destination and/or storage location.

#### 4. DOCUMENTATION INVITING TENDERS

#### 4.1. General Considerations

- 4.1.1 Products to be procured must be described in sufficient detail to permit supply of a product of the required quality and to permit and encourage competition between potential suppliers. The use of trade names rather than common names to describe pesticide formulations to be supplied must, where possible, be avoided in describing products for which tenders are invited. Where the use of trade names is unavoidable, such descriptions should always be followed by the qualification "or equivalent".
- 4.1.2 Where tenders are invited in countries without registration schemes for the supply of a pesticide containing a particular named active ingredient, the active ingredient should be identified as being "the suggested active ingredient". Bidders must be requested to provide evidence that the efficacy of each product offered for sale is satisfactory for the intended purposes. This should include the provision of or reference to efficacy data generated under comparable conditions (11).

- 4.1.3 In countries without a registration scheme the offer should also comply with national decisions/regulations regarding importation and use, including Prior Informed Consent (PIC).
- 4.1.4 All pesticides offered for sale must meet the specifications established or specified by relevant national authorities. Where national specifications do not exist, pesticides must satisfy relevant FAO specifications for plant protection products, or WHO specifications for pesticides used in public health, as appropriate. In those cases where such specifications are not available, it must be specified that pesticides offered for supply meet other relevant internationally accepted specifications. <sup>1</sup>
- 4.1.5 Where technical support from the supplier is either required or considered desirable to facilitate the safe and effective handling and use of products and, where relevant, their disposal, these requirements should be included in the documentation provided to bidders. As much detail as possible should be provided *e.g.* type and amount of equipment or protective clothing required, areas of expertise and periods for which technical expertise are required (see also paragraph 5.2.1).

#### 4.2. Further Information to be Provided to Potential Suppliers for Submission of Tenders

- 4.2.1 In addition to providing a technical specification, purchasers should communicate any other relevant information to potential suppliers. Where items of information listed form part of the description of a product to be procured, bidders must confirm that the product offered is in compliance with such information.
- 4.2.2 The information concerned may include:

#### 4.2.2.1 technical information

- i common name of active ingredient (if an ISO common name is not available, the chemical name),
- ii formulation type (10),
- iii content of pure active ingredient, expressed in g/l for liquids, and g/kg for solids as provided in the relevant national, FAO, WHO or other specifications (12, 13). Where relevant the form in which the active ingredient is present must be stated, e.g. ester, amine, sodium salt, etc., and
- iv details as to how long the product can be stored under normal conditions in the country of use in the packaging supplied.

#### 4.2.2.2 biological activity and use information

- i target organism(s),
- ii crop(s) or other use(s),
- iii rate of application (I/ha or kg/ha as appropriate, on an active ingredient basis),
- iv method of application,
- v timing of applications, and
- vi area to be treated in ha.

<sup>&</sup>lt;sup>1</sup> The product must comply with the specifications prevailing in relevant OECD countries. It must be noted that specifications established for particular products may not be the same for all OECD countries. A copy of the specification with which any particular product is claimed to comply must be submitted along with the tender documentation.

#### 4.2.2.3 details of packaging

- i container size or sizes,
- ii packaging specifications.

#### 4.2.2.4 details of labelling

- i language or languages in which labelled,
- ii method of affixing labels to drums or other containers,
- iii information included on labels together with any other requirements specified through local legislative provisions
  - a) product name,
  - b) identity and content of active ingredient,
  - c) nature of the formulation,
  - d) identity and content of solvent or carrier present (if required),
  - e) net contents,
  - f) date of formulation, batch number and, where relevant, information on shelflife (where less than 2 years),
  - g) registration number (where relevant),
  - h) summary of uses,
  - i) directions for use,
  - j) withholding period(s) and other safety intervals,
  - k) general instructions for safe handling, storage, transport and use,
  - warning phrases as to risks for humans and the environment and those necessary to ensure compliance with "Good Agricultural Practice",
  - m) safety advice,
  - n) first-aid instructions and advice to doctors,
  - o) WHO Hazard Classification (8) and appropriate warning colour band,
  - p) details of other legal responsibilities <sup>2</sup>,
  - q) instructions for the storage of the product,
  - r) instructions for disposal of containers,
  - s) pictograms selected from those recommended by FAO (2), and
  - t) name(s) & addresses of manufacturer, distributor or agent, and registration holder as appropriate and relevant.

## 4.3. <u>Suggested Format for Documentation Inviting the Submission of Tenders for the Supply of Pesticides</u>

4.3.1 A suggested format for documentation inviting tenders for the supply of pesticides, including suggested conditions to be applied to the submission of bids in response to tender invitations, is attached (Annex I). Quotations as to the price at which particular products are offered should be provided in accordance with the format set out in Annex II and be accompanied by a formal undertaking in accordance with the suggested format contained in Annex III and, the supporting documentation listed in Annex IV.

 $<sup>^2</sup>$  Certain products may fall within the scope of particular national legislation of the importing country requiring different or further information to be printed on labels  $\emph{e.g.}$  safe use, hazard classification, transport, storage, etc.

### 5. CONDITIONS TO BE LISTED IN TENDER INVITATIONS AND TO BE ATTACHED TO THE SUBMISSION OF BIDS

#### 5.1. General Conditions

- 5.1.1 In countries without registration schemes, particularly, bidders must be required to provide an undertaking that they will meet all obligations arising under the "International Code of Conduct on the Distribution and Use of Pesticides" (1) and confirm their acceptance of obligations arising in the context of product liability. The relevant declarations must be attached to the tender offers submitted (see Annex IV).
- 5.1.2 Where a registration or approval scheme for pesticides is not in operation in the country, bidders must be required to supply the following:

#### **5.1.2.1** evidence -

- i either that each product offered has already been registered and is exactly the same as that sold in countries with stringent registration criteria such as in OECD countries,
- ii or that the active ingredient of each product proposed is part of a formulated product which has already been registered by the supplier/manufacturer in countries with stringent registration criteria such as OECD countries.
- 5.1.2.2 information, based on research conducted locally or under similar climatic and crop conditions as to the suitability of pesticides offered for particular crop/pest situations or other use, taking into account
  - i the need to demonstrate efficacy on the basis of data on relevant formulations, in situations where official recommendations do not exist;
  - ii the requirement that unwarranted or false claims as to efficacy be excluded;
  - iii the need to indicate the levels of residues that may occur at harvest and to demonstrate that pre-harvest intervals proposed are appropriate to the conditions arising;
  - iv the need to indicate that relevant re-entry periods are appropriate to the conditions arising;
  - v a compositional statement (specification) of each product listing the content of active ingredient, the content of solvents and other additives and, in so far as they are of toxicological significance, the content of impurities present in the technical active substance; and
  - vi the name of the actual manufacturer of the active ingredient(s), and details of analytical methods for the determination of the active substance in the formulated product. The information provided, other than that relating to methods of analysis, must be treated as confidential by all parties concerned.
- 5.1.2.3 the acute oral and dermal  $LD_{50}$  values of formulated products offered and their hazard classification in accordance with the WHO hazard classification system (8);
- 5.1.2.4 where requested, a summary of the data relevant to safety and efficacy as submitted for the registration of the product or a similar product in a country with stringent registration requirements such as an OECD country (see paragraph 5.1.2.1);

5.1.3 In countries which have a registration scheme, only pesticides which have been or can be registered, may be considered for procurement. In such countries, bidders must be required to state the

registration number or provide other evidence of registration (e.g. a copy of the registration certificate).

- 5.1.4 Where tender invitations list particular commercial or generic products and the quantities required, quotations with respect to equivalent products must always be invited (see paragraph 4.1.1). In all such cases, bidders must be required to provide sufficient information to facilitate decision-making on the basis of comparisons of cost quality, performance, and safety to humans and the environment. Where available, information generated by local research institutions should be submitted. Information useful in making such decisions includes:
  - i cost per hectare at recommended dosage rates (preferably over an average season, rather than for a single application);
  - ii toxicity of the formulation and likely level of exposure of those handling and using the product;
  - iii environmental impact including persistence but also effect on beneficial organisms;
  - iv cost of necessary safety equipment;
  - v storage life and recommended storage conditions; and
  - vi procedures for and costs of disposal.
- 5.1.5 As formulations containing different amounts of active ingredient may be suitable for the intended purpose, bidders may offer more than one product for a particular use. In all such cases, bidders must provide detailed information, as specified in paragraph 5.1.4, for each product offered.

#### 5.2. Conditions Relating to Bidders

- 5.2.1 Where, in accordance with paragraph 4.1.5, technical support from the supplier is either required or considered desirable, to facilitate the safe and effective handling and use of products, and where relevant, their disposal, bidders should be required to provide evidence as to the nature and level of the technical support that can and will be provided. Similarly, bidders or their local representatives may also be required to provide information as to the nature and extent of the after-sales service and assistance they are in a position to supply, in the event of accidents.
- 5.2.2 There may be in some countries and for some products or product types, a need to identify those suppliers of pesticides who can provide required after-sales service. Invitations to submit tenders for the products concerned could be limited to those who pre-qualified in this respect.
- 5.2.3 In countries which have a pesticide registration system and which also use a prequalification for those submitting tenders, the provision of all information and documentation necessary to achieve registration of products offered for sale should be a criterion for such prequalification (see paragraph 5.1.3).

#### 5.3. Conditions for the Quality of Individual Products Offered

- 5.3.1 Regardless of whether the bidder is the manufacturer, dealer or registrant of a given product, relevant conditions and criteria must be satisfied for all products offered.
- 5.3.2 The bidder has to provide evidence that the product offered complies with the relevant specification (see paragraph 4.1.1 through 4.1.4).

- 5.3.3 A declaration as to nominal content of active ingredient must be provided for each product offered as well as being included on labels (see paragraph 4.2.2.4).
- 5.3.4 Since variation in the measured content of active ingredient, as determined through analysis, is influenced by the precision of the method of analysis used, sampling errors and normal variations in manufacture, the permitted tolerances on the active ingredient content of individual products must be determined on a case-by-case basis. For consignments of up to 5,000 kg, the tolerances listed in Table 1 should be applied, except where either more stringent tolerances are included in relevant FAO specifications for products concerned or have been agreed with the supplier. For consignments of 5,000 kg and over, the tolerances given in Table 1 apply where single samples are taken from consignments. Where several samples are taken, the permitted tolerance is 50% of that specified in Table 1, subject to the number of samples taken and analyzed being adequate.
- 5.3.5 Bidders must be required to submit documentation for each product offered to demonstrate that when stored in its unopened original container, protected from direct sunlight at a temperature specified by the manufacturer<sup>3</sup>, in a well-ventilated store, it will be fit for use for at least 2 years, unless otherwise declared and agreed (10). Since it is generally accepted that a deviation of 10% of the active ingredient content does not significantly influence biological performance, the active ingredient content at the end of a product's shelf life (e.g. 2 years) must not be more than 10% below that initially found through analysis.

Table 1 Tolerance on Content of Active Ingredient in Formulated Products (10)

Declared content in g/kg or g/l at 20° C*	Tolerance	
up to 25	± 15% of the declared content for homogeneous formulations (EC, SC, SL)	
	± 25% of the declared content for non-homogeneous formulations (GR, WG)	
above 25 up to 100	± 10% of the declared content	
above 100 up to 250	± 6% of the declared content	
above 250 up to 500	± 5% of the declared content	
above 500	$\pm$ 25 g/kg or g/l	

<sup>\*</sup> In each range, the upper limit is included

 $<sup>^3</sup>$  e.g. not above .. $\Box$ C, or not below .. $\Box$ C, or between .. $\Box$ C and .. $\Box$ C.

#### 5.4. Conditions for Packaging

- 5.4.1 Bidders must be required to demonstrate that packaging will be in accordance with national requirements, Article 10 of the "International Code of Conduct on the Distribution and Use of Pesticides" (1) and relevant FAO Guidelines (3).
- 5.4.2 In particular, bidders must be required to demonstrate that packaging of pesticides for direct use:
- 5.4.2.1 will be of suitable size and design and is such that
  - i decanting or re-packaging of pesticides before use can be minimized, and
  - ii convenience in use is facilitated and exposure of users to concentrate is minimized;
- 5.4.2.2 will be of a type commonly in use only for pesticides;
- 5.4.2.3 including closures, will be sufficiently robust to preclude leakage, taking into account handling during shipment and local transport conditions where appropriate, the thickness of materials used in manufacturing packaging should be specified;
- 5.4.2.4 will be selected to take into account the possibility of prolonged storage under adverse weather conditions and will be such that storage life is maximized in the case of drums they should be light coloured, to reduce absorption of radiation; and
- 5.4.2.5 will satisfy the requirements laid down by relevant international organizations concerned with transport (ICAO, IMO, RID and IATA<sup>4</sup> in particular).

#### 5.5. <u>Conditions for Labelling</u>

- 5.5.1 Where formal national labelling requirements exist, those requirements must be adhered to. In other cases bidders must be required to demonstrate that labelling of products supplied will be in accordance with Article 10 of the "International Code of Conduct on the Distribution and Use of Pesticides" (1) and relevant FAO Guidelines (2).
- 5.5.2 In particular, bidders must be required to demonstrate that the labelling of pesticides for direct use will satisfy the following particular requirements:
- 5.5.2.1 that they be printed in ...... (local official and other appropriate language or languages);
- 5.5.2.2 that they be affixed to drums or other containers in such a manner as to withstand the rigours of handling, transportation and storage in the open; and
- 5.5.2.3 that the information specified in paragraph 4.2.2.4 (iii) be included on labels together with any other requirements specified in local legislative provisions.

RID: International regulations concerning the carriage of dangerous goods by rail

IATA: International Air Transport Association

<sup>&</sup>lt;sup>4</sup> ICAO: International Civil Aviation Organization

IMO: International Maritime Organization

#### 6. PROCESSING OF TENDER DOCUMENTS

#### 6.1. General Requirements

- 6.1.1 The procedures described hereunder for processing responses to tender invitations may be adapted to suit local requirements and situations, in order to be compatible with local legislation.
- 6.1.2 In countries which do not have a pesticide registration scheme, in order to ensure that products procured have been subjected to a detailed evaluation as to their safety and efficacy, care must be taken to ensure that the products recommended for procurement, or another formulation containing the active ingredient(s) concerned, are registered in at least one country with stringent registration requirements such as an OECD country, and that the formulation guarantees product stability under local climatic conditions (see also 4.2.2.1). Where official recommendations for the uses concerned do not exist, particular attention must be given to the evaluation of the efficacy of products offered (see paragraph 5.1.2.4).

#### **6.2.** Organizational Requirements

- 6.2.1 A "Tender Committee" must be established to:
  - i establish procedural rules to be followed by all personnel having access to the documentation:
  - ii supervise the evaluation of tender documents submitted by bidders; and
  - iii make final decisions as to the tenders to be accepted.
- 6.2.2 "Tender Committees" should be composed of at least five appropriate senior officers sufficiently familiar with the subject. The following, by way of example, is suggested as the appropriate basis for establishing a "Tender Committee" in a government department wishing to procure pesticides:

The membership of the committee should be drawn from among senior officers of relevant departments and agencies -

- i the Secretary General of the Ministry of Finance, or a senior officer of that Ministry deputized to act on his behalf,
- ii the Secretary General of the Ministry concerned with procurement, or a senior officer of that Ministry deputized to act on his behalf,
- iii the Head of the Department of the Ministry concerned with procurement, or an officer of that Department deputized to act on his behalf,
- iv senior officers of other government departments and agencies concerned with the safe and responsible use of pesticides, who in their personal capacities can provide expert and technical advice, and
- v in countries where a pesticide registration scheme is operated, the registrar of pesticides, or in other cases the senior government official with analogous responsibilities, if not represented under iii or iv).
- 6.2.3 The "Tender Committee" shall not include any person who has a vested interest in the supply of pesticides. Directors, employees, agents or representatives of industrial or trading bodies or organizations involved in the pesticide industry may not be members of the "Tender Committee". Nevertheless, if the Committee so decides, it may call for advice from industry representatives on matters of a technical nature, subject to such representatives not being present when matters of a confidential nature are discussed.

6.2.4 "Tender Committees" should be chaired by the administrative head of the organization or agency wishing to procure the pesticides concerned (*e.g.* the head of the relevant Department of a Ministry).

#### 6.3 Procedural Requirements

- 6.3.1 The detailed evaluation of tenders should be conducted by suitable, technically qualified, officers of the purchasing agency or by other suitable, technically qualified, personnel appointed by the purchasing agency, in accordance with procedural rules established by the "Tender Committee". Evaluations should be conducted under the general supervision of the Committee. Personnel having direct or indirect links to bidders must not be involved in the examination of tender documentation, have access to it, or be involved in the evaluation and decision-making processes.
- 6.3.2 The bids submitted must be processed, and recommendations for purchase must be made on the basis of the criteria established by the "Tender Committee", criteria which to the extent appropriate will have been reflected in the documentation issued to potential bidders.
- 6.3.3 The recommendations as to the bids to be accepted in the light of the criteria established by the "Tender Committee" must reflect a balance between all the relevant considerations, which include those relating to quality, effectiveness, price, manner of and ease of use, storage life, storage facilities required, safety to humans and the environment, packaging, labelling, delivery constraints and technical support and after-sales service offered.
- 6.3.4 The decisions of the "Tender Committee" must not be open to appeal, other than through the courts in accordance with local civil law procedures and precedents. In the case of controversy arising during or after the supply of pesticides by the successful bidder, the matter should be brought to the attention of the committee for advice as to the follow-up action to be taken by the procurer.
- 6.3.5 In each individual situation where the "Tender Committee" rejects the recommendation submitted, and the recommendation concerned was to procure the least expensive product meeting the criteria established by the Committee, a statement of the reason(s) for rejection of the recommendation and acceptance of another bid must be attached to the two sets of tender documents concerned. The statements must be signed by the chairman of the Committee.

#### 7. ARRANGEMENTS FOR SUPPLY OF PESTICIDES

7.1 Where procurement is to proceed, successful bidders must be immediately informed in writing of the acceptance of their bids and be required to sign undertakings to supply the required amounts of the pesticide(s) concerned in accordance with the terms, including relevant specifications, and the conditions stipulated in the documentation inviting tenders.

#### 8. SAMPLING AND ANALYSIS

- 8.1. The extent to which the product supplied complies with the required specification should be determined through analysis. The procurer has the right to require that the tenderer has the obligation to pay for the costs of any such analysis.
- 8.2. The recommended methods of sampling are described in Annex III to the "Manual on the Development and Use of FAO Specifications for Plant Protection Products" (10). Each sample taken must be divided by the official into three approximately equal parts, each of which must be sealed and marked. One part should be provided to the supplier of the product or his agent. Another part should be either personally delivered or be sent by registered post to the appropriate

laboratory for analysis, the third part being retained for future comparison or use, in the event of a dispute.

- 8.3. Where products are supplied in packages of small volume, the official may take three unopened packages of each product and treat them as if they were the three parts into which a sample should be divided.
- 8.4. In situations of dispute, that part of the sample retained by the authorized officer should be submitted for separate analysis by an independent, internationally recognized laboratory.
- 8.5. Analyses of samples must be carried out using appropriate methods included in the relevant FAO Specifications. Where such specifications are not available, CIPAC<sup>5</sup> or AOAC<sup>6</sup> methods must be used. In the absence of such methods, the method provided by the manufacturer, if accepted by the registration authorities of an OECD country, should be used.

#### 9. CONTROL MEASURES AND REQUIREMENTS

- 9.1. Measures necessary to ensure that appropriate legal controls are available, should be introduced as conditions of contracts entered into with suppliers. It is especially important that such provisions be introduced in countries with no effective pesticide control scheme in operation. In countries that have such a scheme, the specific controls suggested provide a legal basis for necessary additional controls.
- 9.2. For control and legal purposes, Certificates of Analysis, whether provided by manufacturers, by laboratories conducting analyses on behalf of the purchaser or official Government Laboratories, must contain the following information:
  - i the name and address of the laboratory which carried out the analysis;
  - ii the name and signature of the analyst who carried out the actual analysis;
  - iii the sample number and other indications of sample identity;
  - iv the date of receipt of the sample in the laboratory;
  - v a statement as to the condition of the sample and the sample seal on receipt in the laboratory, including details of any evidence that the sample may have been tampered with;
  - vi the manner of delivery to the laboratory and from whom received;
  - vii the manner, conditions and duration of storage prior to analysis, where relevant,
  - viii the date of analysis;
  - ix a summary of the method of analysis used; and
  - x the analytical results obtained.
- 9.3. Legal actions or punitive measures on the basis of analytical results demonstrating deviations from the specifications agreed upon by the supplier can only be initiated prior to the

<sup>&</sup>lt;sup>5</sup> Collaborative International Pesticide Analytical Council

<sup>&</sup>lt;sup>6</sup> Association of Official Analytical Chemists

expiry of a period of one hundred and fifty days from the date of sampling.

#### 9.4. Provision should be made on the basis of:

- i the analysis of a sample properly taken, properly delivered and analyzed;
- ii where the Certificate of Analysis purporting to show that the sample taken does not meet the required specification and that finding is undisputed; or
- iii in the event of a dispute, the Certificate of Analysis relating to the relevant third part of the sample shows that the sample taken does not meet the required specification, the consignment from which the sample was taken shall be deemed not to meet the required specification.

#### Annex I

# SUGGESTED FORMAT FOR DOCUMENTATION INVITING COMPETITIVE BIDS BY WAY OF TENDER FOR THE SUPPLY OF PESTICIDES

#### Name of Country

Title of Organization inviting Tenders for supply of Pesticides

Reference No. of Tender:  Documentation Reference No. 7					
Closing date of tender	e.g. 12 noon, local time, on (date)				
Fee for each set of tender documents	e.g. US\$ 10 - or equivalent in local currency)				
pesticides, in accordance with	I from suppliers <sup>8</sup> to submit bids for the supply of the specifications and conditions listed, during the [Organization] in [name of country].				
signed and stamped, sealed	returned for consideration must be completed, d and addressed to (Name and address of ce number of the tender must be stated on the				

 $<sup>^{7}</sup>$  Each set of documents issued to potential bidders should be numbered, such that each set issued for which the appropriate fee has been paid, is given a separate identification number.

<sup>&</sup>lt;sup>8</sup> Where a list of registered suppliers is maintained, invitations to submit bids could be restricted to those included on the list.

#### I General Conditions

- 1. Bids may only be made using the documentation inviting tenders and forms (see Annex III) which can be obtained from [name and address of office]. A fee of [amount] must be paid for each set of documents obtained.
- 2. Bids submitted, together with supporting documentation and undertakings, must be in a sealed envelope with the reference number of the tender clearly marked on the envelope. Bids must arrive at [specific location and address of office] at or before 12 noon, local time, on [date], and be placed in the box reserved for that purpose. Bids received later than the specified time will not be considered.
- 3. The [procuring organization] shall not be responsible for any loss arising as a result of any tender document being delayed or lost in the mail.
- 4. Suppliers may quote for one or more of the pesticides for which bids have been invited. Each quotation must be provided on the appropriate form (see Annex II)
- 5. Bids for each individual product to be purchased will be evaluated separately.
- 6. Bids submitted must be supported by sufficient data, documentation, evidence, information, statements and undertakings to demonstrate compliance with the required specifications and conditions (see Annex IV).
- 7. Prices quoted must be expressed in [specified local currency], and must be valid for [a period to be specified by the procurer] from the final date for submission of tenders. In addition and where relevant, the amount of any import duty payable must be stated.
- 8. Prices quoted must be for a product of the quality specified and include the cost of packaging and labelling in accordance with the requirements specified, as well as the cost of transport and delivery to the nominated store (or stores) in accordance with the attached schedule<sup>9</sup>.
- 9. In the light of requirements relating to quality, effectiveness, price, manner and ease of use, storage life, storage facilities required, safety to humans and the environment, packaging, labelling, delivery constraints and technical support and after-sales service offered, contracts may not be awarded to the bidders providing the lowest quotations.
- 10. Contracts may be awarded for certain items for which bids were invited or for all such items and in the case of individual items, for all or part of the quantity concerned.
- 11. The [procuring organization] reserves the right to place a contract for supply of the full amount for which a quotation is offered or, where the supplier can deliver it, for more than that quantity.
- 12. As soon as a contract is offered to a supplier, he will be required to submit a bond guaranteeing satisfactory completion of the contract. The bond must be in the form of a bank guarantee and shall be returned within a specified time period after contract obligations have been satisfactorily discharged. The amount of the required bond will be:
  - i 2.5% of the value of the contract, where that value is below US\$ 500,000; and
  - ii 5% of the value of the contract, where that value is above US\$ 500,000.

٠

<sup>&</sup>lt;sup>9</sup> The Schedule should specify the name and address of each relevant store, the quantity of each product to be delivered to each such store and the period within which each delivery (part or full) is to be made (e.g. within 90 days of placing of a contract).

- 13. A bidder who refuses to sign a contract after one has been offered to him, or who withdraws a bid any time after he has submitted it, will not be allowed to submit bids in response to future invitations for competitive bids by way of tender for the supply of pesticides, for a period of two years from the date of withdrawal or refusal.
- 14. Success in competitive tendering shall not be used for the purposes of advertising products.
- 15. Disputes arising relative to tendering procedures, awarding of contracts and discharge of contractual obligations shall be heard only in the [name of court].
- 16. Suppliers shall not instigate a dispute or invoke legal proceedings as a pretext for suspending or failing in any way whatsoever to fulfil their obligations.
- 17. The parties to any contract shall not be held responsible for any delay in the fulfilment of contractual obligations where they are due to *force majeure*, strikes, lock-out, war, civil unrest or other factors outside their control.
- 18. The [procuring organization] reserves the right to examine, take samples from and analyze products being procured. Successful bidders shall facilitate such examination and sampling. In the event that product supplied is found to be of unacceptable quality, different from that specified, or inappropriately packaged or labelled it shall be rejected.
- 19. The acceptability of the quality of products supplied shall be determined on the basis of..... [An appropriate text which needs to be developed by the procurer to reflect chapters 7 to 9 of the Guidelines].
- 20. The supplier shall cause any unacceptable product to be removed from the premises, cause it to be brought up to standard or dispose of it in an environmentally acceptable manner. He shall bear all expenses incurred in such removal, upgrading or disposal. Where the product cannot be brought up to an acceptable standard, the supplier shall be required to refund to the [procuring organization] all expenses incurred in the procurement of the product. The [procuring organization] may also require the tenderer to replace, within a period to be specified, the product rejected with a product of acceptable quality, suitably packaged and labelled. In all such cases, the bond provided as a guarantee of satisfactory completion of the contract for the product concerned shall be forfeited.
- Where part of a consignment of a particular product has been used, and it is subsequently found that the consignment contained less than the specified content of active ingredient but in other respects is satisfactory, the [procuring organization] may adjust any outstanding balance of the payment due to the supplier, by an amount proportional to the deficit in the content of active ingredient in the product. Alternatively, whether or not payment in full has been made, the supplier may be required to replace the remaining product and to supply a further quantity proportional to the deficit in the content of active ingredient. Similarly, where a product is found to be deficient with regard to any other specified parameter relating to quality, after part of the consignment has been used, it shall be treated in a similar manner. In all such cases, the bond provided as a guarantee of satisfactory completion of the contract for the product concerned shall be forfeited.
- II Details of, and Specifications for, Products for which Bids are Invited

[An appropriate text will need to be developed by the procurer to reflect paragraphs 4.1.1 and 4.1.4 of the Guidelines.]

III Specific Conditions Relative to Individual Products

[An appropriate text will need to be developed by the procurer to reflect paragraphs 4.1.5, 4.2, 5.3, 5.4, 5.5 and 7.1 of the Guidelines.]

#### Annex II

#### Form A

#### SPECIMEN QUOTATION

Refere Numb	er identity	gredient content or g/l	Formulation	Packaging	g Quantity Price	Unit Full	Price for Quantity	_	t Total Cost
1	2,4-D Butyl ester	450	Wettable Powder (WP)	500 g/bag	3,000 kg			••	
2	2,4-D Dimethyl amine		Soluble Liquid (SL)	1 l/bottle	10,000 1	••	••	••	
3	Glyphosate Isop ropyl amine sa		Soluble Liquid (SL)	4 l/bottle	7,0001	••		••	

Note: For each item for which a price is quoted, the documentation and undertakings specified in Form B (see Annex IV), must be provided.

#### Annex III

#### FORMAL RESPONSE TO A TENDER INVITATION - SPECIMEN

T					
To:					
	Re: Tender Refere	nce Number			
Dear	,				
my co	In accordance with the conditions inviting compet mpany offers the enclosed quotation(s) for consider	itive bids, by way of tender, for the supply of pesticides, ration (completed Form A to be attached).			
		oth the specifications and the conditions listed in the ocumentation, evidence, information, statements and the a quotation is offered.			
_		of the products for which a quotation is submitted, I tion] at the prices quoted, within the periods of time pecified hereunder.			
		or the evaluation of bids, you may accept or reject my er or similar to that of other bidders. I understand that hin 60 days of the closing date for receipt of bids.			
before The b after	rned within 10 days of receipt of the notice that my e that date, a bond in the amount of [to be specified ond will be in the form of a bank guarantee and wil	n the official contract for the supply of the pesticides tender has been accepted. I undertake to provide, guaranteeing satisfactory completion of the contract. Il be returned to me within [a specified time period] charged or will be forfeited in the event of failure on my			
In the event of being awarded a contract for the supply of pesticides, I undertake that, prior to the delivery of the products concerned, I will supply the following documentation and materials [to be specified in accordance with paragraphs 7.1 of the Guidelines].					
Signa	ture of Bidder:	Signature of Witness:			
Addr	ess:	Address:			
	D.L.				
/	Date:				

Locations to which Pesticides are to be delivered

Product	Location			Quantity
••••••	•••••		••••••	
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	••••••	••••••	••••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	•••••	••••••
•••••	•••••	•••••	•••••	••••••
•••••	•••••	•••••	•••••	••••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	•••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	••••••	••••••
•••••	•••••	•••••	•••••	••••••
•••••	•••••	•••••	•••••	••••••
•••••	•••••	•••••	•••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	••••••	•••••
•••••	•••••	•••••	•••••	•••••
•••••	•••••	•••••	•••••	•••••
•••••	••••••	•••••	••••••	••••••
_			re of Witness:s:	

Date: .....

#### Annex IV

# Form B CHECKLIST OF DATA, DOCUMENTATION, EVIDENCE, INFORMATION, STATEMENTS AND UNDERTAKINGS TO BE PROVIDED

#### I General Requirements

- 1. An undertaking that all pertinent obligations arising under the "International Code of Conduct on the Distribution and Use of Pesticides" (1) will be met and obligations arising in the context of product liability will be accepted (see paragraph 5.1.1 of the Guidelines).
- 2. Evidence that goods offered will be delivered safely and in a timely manner, adequate technical support will be provided, and the capacity exists to satisfactorily deal with any emergencies threatening human health or the environment that may arise (see paragraph 5.2.1 of the Guidelines).
- 3. A warranty that each product supplied will be of the same quality as that offered in response to invitations to submit tenders.
- 4. An undertaking accepting the conditions of payment for the official analysis of products if required (see paragraph 8.1 of the Guidelines).
- 5. Where technical support from the supplier is either required or considered desirable to facilitate the safe and effective handling and use of products and, where relevant, their disposal, evidence as to the nature and level of the technical support that can and will be provided (see paragraph 5.2.1 of the Guidelines).
- 6. Where technical assistance from the supplier is required in the event of an accident, information as to the nature and extent of the assistance they are in a position to provide (see paragraph 5.2.1 of the Guidelines).

#### II Requirements for Each Individual Product Offered

- 1. Information concerning technical details of products offered, details of field of application of products offered, details of use of products offered, details of packaging of products offered details of labelling of products offered and, where a registration scheme is not in operation, other relevant information to facilitate application of the principles of Integrated Pest Management and Good Agricultural Practice in accordance with the "Code of Conduct on the Distribution and Use of Pesticides" (1) (see paragraphs 4.2.2 and 5.1.2.2 of the Guidelines).
- 2. Where no active ingredient is suggested in the documentation inviting bids, or a registration scheme is not in place, evidence that the efficacy of each product offered is satisfactory for the purposes intended data from other relevant countries having similar agro-climatic conditions (see paragraphs 4.1.2 and 4.1.3 of the Guidelines).

- 3. Documentation to demonstrate that the conditions and criteria with regard to the specification and quality of each product offered must include:
  - i certificates of origin name and address of the manufacturer of active ingredient(s) and of the formulator;
  - ii evidence that the manufacturer of both the active ingredient(s) and the formulated product has adequate quality assurance and control procedures in place; and
  - iii an undertaking that the product offered complies with the relevant specification (see paragraph 5.3.2 of the Guidelines).
- 4. A declaration as to the nominal content of active ingredient for each product offered (see paragraph 5.3.3 of the Guidelines).
- 5. Where a registration or approval scheme for pesticides is not in operation, evidence
  - i either that each product offered has already been registered and is exactly the same as that sold in countries with stringent registration criteria *such as in OECD* countries, or
  - or that the active ingredient of each product proposed is part of a formulated product which has already been registered by the supplier/manufacturer in countries with stringent registration criteria such as OECD countries) (see paragraph 5.1.2.1 of the Guidelines).
- 6. Where a registration or approval scheme for pesticides is not in operation, information based on research conducted locally or under similar climatic and crop conditions as to the suitability of pesticides offered, taking into account
  - i the need to demonstrate efficacy, on the basis of data on relevant formulations, in situations where official recommendations do not exist;
  - ii the requirement that unwarranted or false claims as to efficacy be excluded;
  - the need to demonstrate the levels of residues that may occur at harvest and to demonstrate that pre-harvest intervals proposed are appropriate to the conditions arising; and
  - iv the need to demonstrate that relevant re-entry periods are appropriate to the conditions arising (see paragraph 5.1.2.2 of the Guidelines).
- 7. Where a registration or approval scheme for pesticides is not in operation, information as to the acute oral and dermal  $LD_{50}$  values of formulated products offered and their hazard classification in accordance with the WHO hazard classification system (8) (see paragraph 5.1.2.3 of the Guidelines).
- 8. Where a registration or approval scheme for pesticides is not in operation and where requested, a summary of the data relevant to safety and efficacy as submitted for the registration of the product or a similar product in a country with stringent registration requirements such as an OECD country (see paragraph 5.1.2.4 of the Guidelines).
- 9. In countries which have a registration scheme, the registration number or other evidence of registration (e.g. a copy of the registration certificate) for each product offered (see paragraph 5.1.3 of the Guidelines).
- 10. Where quotations with respect to products described as being "equivalent products" are provided, sufficient information to facilitate decision-making on the basis of comparisons of cost, performance and safety to humans and the environment (see paragraph 5.1.4 of the Guidelines).
- 11. Where quotations with respect to formulations containing different amounts of active ingredient are offered for the same purpose, sufficient information to facilitate decision-making on the basis of comparisons of cost, performance and safety to humans and the environment (see paragraph 5.1.5 of the Guidelines).

- 12. Documentation to demonstrate for each product offered that, when stored in its unopened original container, protected from direct sunlight at a temperature specified by the manufacturer<sup>10</sup>, in a well- ventilated store, it will be fit for use for at least 2 years, unless otherwise declared and agreed (see paragraph 5.3.5 of the Guidelines).
- 13. Evidence that packaging of products supplied will be in accordance with national requirements, Article 10 of the "International Code of Conduct on the Distribution and Use of Pesticides" (1), relevant FAO Guidelines (3), and other requirements specified (see paragraphs 5.4.1 and 5.4.2 of the Guidelines).
- 14. Evidence that the labelling of products supplied will be in accordance with national requirements, Article 10 of the "International Code of Conduct on the Distribution and Use of Pesticides" (1), relevant FAO Guidelines (2), and other requirements specified (see paragraphs 5.5.1 and 5.5.2 of the Guidelines).

 $^{10}$  e.g. not above .. $\Box$ C, or not below .. $\Box$ C, or between .. $\Box$ C and .. $\Box$ C.

#### REFERENCES

- International Code of Conduct on the Distribution and Use of Pesticides. (Amended Version). FAO, Rome, 1990.
- 2. Guidelines on Good Labelling Practice for Pesticides. FAO, Rome. 1994.
- 3. Guidelines for the Packaging and Storage of Pesticides. FAO, Rome. 1985.
- 4. Formulation of Pesticides in Developing Countries. UNIDO, New York. 1983.
- 5. Guidelines for the Quality Control of Pesticides. GIFAP, Brussels. 1985.
- 6. Guidelines on Safe Handling of Pesticides during Formulation, Storage, Transport and Sale. FAO, Rome. (in preparation).
- 7. Guidance for Governments. Joint FAO/UNEP Programme for the Operation of Prior Informed Consent. FAO, Rome (M/U/4706E/1991).
- 8. The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 1994-1995 (or latest version). WHO/PCS/94.2, IPCS, Geneva. 1994.
- 9. Field Programme Circular No. 8/92. Pesticide Selection and Use in Field Projects. FAO, Rome. 1992.
- 10. Manual on the Development and Use of FAO Specifications for Plant Protection Products (4th ed.). FAO, Rome. 1995.
- 11. Guidelines on Efficacy Data for the Registration of Pesticides for Plant Protection. Rome, FAO. 1985.
- 12. FAO Specifications for Plant Protection Products. (Available on request from FAO: Plant Production and Protection Division, FAO, Via delle Terme di Caracalla, 001100 Rome Italy.)
- 13. Specifications for Pesticides Used in the Public Health (6th ed.). WHO, Geneva. 1985.