

APPENDIX 2: GUIDELINES FOR COLLECTION OF MEDICINAL AND AROMATIC PLANTS

1. COLLECTING PERSONNEL

1.1 Collectors should possess extensive knowledge about the identification of the plant from which the drug is derived, its physiological specifics and its requirements for environmental factors like shade, moisture, soil etc.

1.2 Collectors should be able to distinguish clearly between the medicinal plant and its closely related relatives in order to avoid unwanted admixtures.

1.3 Collectors should have sufficient knowledge about optimum conditions for the time of harvesting, the best techniques for harvesting and also enough knowledge about the subsequent conservation process and storage conditions to insure high quality of the raw material gathered.

1.4 Collectors should adhere to a high degree of personal hygiene. They should not take part in collecting activities if suffering from infectious diseases transmittable by food, e.g. diarrhoea, carry open wounds, inflammations of the skin etc. until their complete recuperation.

1.5 The knowledge of the collectors should be periodically reinforced and monitored by a competent specialist of the collecting organization. This education process should be documented.

2. COLLECTING

2.1 Collecting should take place at a time when the plants with regard to their use are in optimum condition with respect to required pharmaceutical quality and therapeutic efficacy.

2.2 Collecting should take place under dry conditions. Wet soil, dew, rain or exceptionally high air humidity are unfavourable.

2.3 All equipment used should be clean and free of remnants of previously harvested plants.

2.4 Mechanical damage that results in undesirable quality changes has to be avoided, e.g. loss of essential oil in broken umbelliferous fruits.

2.5 Whenever possible collection should take place in such a way, that unnecessary damage to the plant is avoided. Care should be exercised to enable the plant to grow back to a normal state.

2.6 The period between collecting and arrival of the plant-material at the drying facility should be reduced to a minimum in order to avoid undesirable changes in external appearance, quality and microbial status.

2.7 The collected plant-material should be protected from pests, pets and domestic animals.

2.8 Special care should be taken to avoid overharvesting and through it the danger of extinction of the plant species in the particular collecting area.

2.9 No plants or parts of plants on the endangered species list, be it local or international, should be collected unless special permission is given by the competent state authorities.

2.10 The responsible collecting organization has to appoint at the local level a person charged with insuring the correct identification of the collected plant-material and the compliance of the collectors with provisions 2.1 - 2.9

2.11 Information about the general area of collection, for example, a brief description of habitat, climate, soil type and other specifics which might influence the quality of the harvest should be documented by the responsible collecting organization for each campaign.

2.12 Appropriate documentation including season and date of the collecting campaign and an assessment on identity, macroscopic quality and purity of the collected plant material should accompany every shipment from the collecting area to the drying and/or processing facility.

2.13 Every shipment constitutes a batch. It should be labelled appropriately and be accompanied by the documentation outlined in paragraph 2.12.

2.14 The appointed person of paragraph 2.10, possessing adequate knowledge about the requirement on identity, quality and purity of the plant-material should sign the accompanying documentation and accept responsibility for those specifics named in paragraphs 2.12 and 2.13.

3. DRYING/PROCESSING

3.1 Arriving at the drying/processing facility the collected plant-material has to be promptly unloaded and unpacked. It should not be exposed to the sun and must be protected from the elements.

3.2 Building-facilities used for drying/processing must be clean, well aerated and never be used for animal keeping.

3.3 Building-facilities must provide protection of the plant-material against pests, rodents, insects and birds as well as against pets and domestic animals.

3.4 Equipment like drying-frames etc. must be clean and regularly serviced.

3.5 In case of air drying, the plant-material should be spread in a thin layer. The drying frames must be located in a sufficient distance from the ground to provide adequate air circulation and facilitate uniform drying.

3.6 For all methods used, adequate consideration should be given that drying conditions are chosen appropriate to the type of plant-material processed. These concern both the character of the active ingredients (e.g. essential oils) and the type of plant organ collected (e.g. root, leaf, flower etc.).

3.7 Drying directly on the ground under exposure to sunlight should be avoided.

3.8 The dried drug should be screened in order to eliminate discoloured, mouldy or damaged pieces and foreign admixtures and contaminants.

3.9 Clearly marked waste bins should be kept ready, emptied and cleaned daily.

3.10 The dried plant-material should be packaged immediately in bags or containers permitting air exchange in order to reduce the risk of pest attacks and mould.

3.11 Adequate documentation of the drying process, duly signed by a responsible person, should be added to the batch report.

4. Packaging, equipment, facilities for storage, documents and quality assurance

The requirements laid down in the Good Agriculture Practice (GAP) guidelines apply where appropriate