

Data collection

The collection of data associated with the species or populations from which seed is taken is a vital contribution to knowledge about these plants. Habitat information such as rainfall, altitude, slope, landform, aspect, geology, vegetation physiognomy, associated species and soil characteristics have important implications for restoration ecology and amelioration applications. Population characteristics (phenology, number of plants, % of population producing seed, pollination and dispersal mechanisms, predation etc.) are useful data for conservation authorities, and information about the plants themselves (form, height, flower/fruit morphology etc.) is required by taxonomists and systematists. The Millennium Seed Bank primary data form is reproduced in Annex 3. If collectors prefer instead to use field data forms or formats already in use by their organisation, please ensure that as a *minimum*, the essential data fields indicated by **bold** are completed.

Table 2: the MSBP data fields explained

Date collected The date of collection is very useful in phenological studies and should always be included.

Collection number Collection numbers should be consecutive and chronological. Ideally, the same number should be used for seed and voucher. Try to avoid gaps in the number sequence, and if you do have gaps, e.g. through spoilage of a specimen, do not re-use the number; mark it as void in your records.

Collectors All active participants should be recorded.

Country No explanation necessary

Province/State No explanation necessary

Local situation Directions to the locality, e.g. .211 km from Pretoria on N1 to Petersburg. This information helps relocate a population without the use of a GPS.

Latitude/Longitude Lat/longs are determined with a portable Geographical Positioning System (GPS). RBG Kew usually uses the Garmin 12XL model, but not exclusively. Ideally, the GPS datum WGS84 should be used. If another datum is used, please state which in the box provided. GPS co-ordinates are generally accurate to 10-15 m.

Altitude An altimeter is more accurate than a GPS. Some more expensive GPS's have a built in pressure altimeter. The Seed Bank database accepts altitude measurements in feet or metres.

Habitat code A key to vegetation physiognomy relevant to this field is available from the MSBP. Collectors may prefer to use a local or regional physiognomic classification, in which case this field should be left blank.

Habitat and associated species If an alternative physiognomic classification is being used, it should be inserted here.

Associated species give important detail to the habitat description.

Modifying factors Factors which may impact on the species collected. These may be the result of position (e.g. roadside), land use (e.g. browsing, wood cutting) or susceptibility to elements (fire, flooding etc.).

Land form The level of detail required here is at the collector's discretion. At the very least, a description of local topography should be provided (e.g. flat, undulating, mountainous etc.).

Slope An estimate in degrees or an indication of steepness (e.g. 30°, slight slope etc.).

Aspect If a collection is made from a slope, the aspect (i.e. the direction the slope is facing) should be recorded. This information gives an indication of sun, shelter etc. experienced by the plant.

Land use No explanation necessary. Examples include: pastoral, protected area etc.

Geology No explanation necessary. This information can be found either in the field or from geological maps.

Soil colour, texture and pH Soil colour charts (e.g. Munsell) may be used if available. If not, an ocular estimate of soil colour is a useful record. Soil texture (sand/loam/clay) is best estimated by rolling a sample of soil between finger and thumb. Soil pH can only be measured with the use of a pH meter; these are available from the MSBP if required.

Drainage This information gives an idea of how much water is available to a plant population, and also provides clues as to the origin of the soil, e.g. well drained colluvial soil, poorly drained illuvium etc.

Family, genus, species, infra-specific No explanation necessary. This is a field identification. Verified herbarium identifications should be detailed in the spaces provided on the back of the form.

Number of voucher duplicates Two voucher specimens is a minimum; one for the MSBP and one for a herbarium in the country of origin.

Area sampled No explanation necessary. Area must be given in m².

Number of plants sampled This information, together with the number of plants found, gives an idea of what percentage of the population has been sampled. This is important information in genotypic sampling.

Number of plants found i.e. an estimate of the size of the population.

% population producing seed No explanation necessary.

Seed harvesting (early, mid, late season) No explanation necessary.

Seeds collected from (plants, ground, both) No explanation necessary.

State of seeds (moist, dry, both, other) No explanation necessary.

Herbarium data, including plant height See Table 1 above.

Ethnobotanical data If vernacular names are provided, the language should always be noted.