

Some guide lines on preparation of applications for release of new varieties of fruit crops.

Please provide the following information which will facilitate the evaluation of new varieties.

1. Crop name / botanical name :
Eg: Banana / Musa
2. Category: 1,2 or 3 (details on page 2)
3. Proposed name of new variety / cultivar: choose a name that can be easily recognized and remembered by the farming community, Avoid repeating a name already in use Praiseworthy, if the given name is attractive to people live in foreign soil.
4. Justification: Explain briefly how the new variety/cultivar is recommended: National/Regional. Known ones, and what advantages it has over them.
5. Area for which the new variety/ cultivar is recommended: National/ Regional, provide evidence.
6. Type of variety/ cultivar: Pure line/ OPV / clone/ budded (give details of root stock) / grafted / hybrid (give details of parents and procedure adopted)
7. Method of multiplication:
Vegetative (cuttings, budding, grafting etc) or by seed.
8. Origin and pedigree: Introduction or locally developed; if budded or grafted, details of mother plant and rootstock. Any recommendation as to conservation of mother plants in site.
9. Procedure adopted and time taken to develop the new variety/ cultivar, and to maintain its purity and the consistency of its potential. Suggest follow-up action if necessary to maintain the potential of the new variety/ cultivar.
10. Assessment of performance of new variety/ cultivar and appropriate data taking into account crop category.

Crop categories

Fruit crops are assigned to three categories as follows:

Category 1: Crop considered as annuals, which can be evaluated within one year after establishment, e.g. Papaya, Strawberry, Banana, Passonfruit, Pineapple etc.

Category 2: These crops reach field uniformity and yield stability 3 – 4 years after establishment. Basically new varieties developed using budding and grafting. E.g. Citrus, Guava, Grapes, Pomegranate, Anona, Temperate fruits.

Category 3: These require 5 years or more (usually 6 – 8) to provide a stable economic yield. E.g. Woodapple, Mango, Rambutan, Jakfruit, Mangosteen, Avocado.

Recommended testing procedure

Yield assessment

Category 1:

Results of NCVT and VAT or demonstration plot reports should be given in support. Data should always be compared with an appropriate check or test variety. If there is no recommended variety to be included as a check variety, a popular variety grown in the area can be used. Yield data should be collected from 4 or 5 consecutive picks during the evaluation period. Data should be analyzed using standard statistical procedure. Interpretation of data should be statistically sound and their consistency should be transparent. Analytical data both at different locations and across locations are needed in order to consider the variety for either national or regional release.

Category 2:

Yield data of a minimum of 3 picks after reaching stable yield are required. For analysis use the same procedure as for category 1.

Category 3:

Yield data from 3 consecutive picks are required. Assessment of mother plant can also be used for comparison that helps to reduce the duration of testing. Two to three elite varieties can be grown in farms for demonstration purposes. A team of scientists nominated by the Director General of Agriculture will make observations on the performances of these materials before making any recommendation. For national release data from multi-location testing are required. Testing sites should represent all three zones, DZ, WZ and IZ. It is necessary to make comparison with present recommended variety or with popularly grown variety.

Assessment for quality parameters

1. Post-harvest data

Keeping quality is an important trait for fruits. Data on shelf life and physical and chemical parameters should be provided.

2. Responses to biotic and abiotic stress should be reported.

3. Response to fertilizer

Though not essential, observations made during evaluation should be included in the report.

4. Economic analysis of yield – optional

Statistics from Economists especially for fruits price index to catch the market.

5. Characterization

Use the standard descriptors to report.

6. Dust report.

Generally new varieties are vegetatively propagated and it is assured that they are uniform and stable. However, usually more genetic information has to be generated to conform to the distinctiveness of the new variety. Therefore the certifying officer should be provided with 25 plants of each new variety for study and confirmation of its distinctiveness.

7. Place where the new variety/ cultivar was developed
Observations of the head of the organization on the new variety should be included.
8. Information on the availability of planting material of the new variety / cultivar and the cost, cost involved if produced outside the Department of Agriculture.
9. Definitions
Breeder:
Only the new variety shows distinctively different to its parents due to intervention of the breeder.

Scientists:
Only new variety has been developed by selecting, using standard evaluation technique, from an existing cultivars and has no change done to the genetic makeup using any breeding method with an intention to change the genetic architecture of the original introduction/ materials.

Variety: Agronomic unit which suit to fit the purpose.

Cultivar:
Any variety which is already being cultivated with or without any particular reason or advantage.
10. Other Important Reports from
 1. Crop Leader
 2. Private Sector Observation
 3. Pathologist/ Entomologist and Virologist
 4. Report from Statistician
 5. Economist
11. Additional Information
 - Availability of Planting material
 - Visit by other or Competent Scientist who does sequential visit to the site
 - Perfected technique – for producing planting materials
- for packing and Transport/ Export
 - Post harvest losses
 - Shelf life
12. Reporting on Phenotypic characters
Give acceptable varieties by percentage. E.g. Color of flower or anther
13. Provide live sample, if available, at the time of presentation of your results.