

Seed production and critical point assessment procedures

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What is Quality?

The extent to which requirements or expectations are met:

- requirements may be stated or implied
- quality refers to products and services

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What is Quality Management?

Definition

“Activities aimed at directing and running (controlling) an organisation regarding quality

Quality plan

- ▶ **Explains how an organisation intends to apply the quality policy, to**
- ▶ **achieve the quality objectives and to meet quality system requirements**

Quality control

- ▶ **Set of activities or techniques to ensure that quality requirements are**
- ▶ **being met**

Quality improvement

- ▶ **Enhance the capability to fulfil quality requirements**

Quality assurance

- ▶ **Set of activities to demonstrate that an organisation meets**
- ▶ **all quality requirements”**

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Why do we need quality assurance?

- ▶ The bottom line!!

Our customers must have confidence

in the quality of our product/service which must be:

- - **Reliable**
- - **Relevant**
- - **Reproducible**

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Building blocks of a QA system

- ▶ **Q-Manual (Level A)**

Describes the quality system in accordance with the stated quality policy and objectives and the accreditation standard

- ▶ **Documented quality system procedures (Standard operation procedures) (Level B)**

Describes the activities of individual functional units

- ▶ **Other quality documents (Work instructions, forms, reports, etc.) (Level C)**

Consists of detailed work documents

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How to prepare SOP's

- ▶ Standard operation procedures shall enable users to perform the work by following the description. The volume and degree of detail should be adapted to the needs of the personnel.

General design

- 1. Purpose.
- 2. Scope.
- 3. Definitions and abbreviations.
- 4. Related documents and references
- 5. Responsibilities
- 6. Process description
- 7. Records
- ▶ The same structure may be followed for technical and non-technical procedures.

How to prepare flow charts

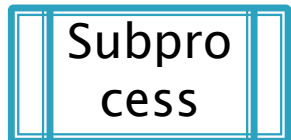
Boxes used for flow chart:



To indicate start and end of process



An activity with an input and an output



An activity that can be represented in a flow chart on its own



A process with two possible outcomes, i.e. Yes or No



An information and its medium that results from or supplements a process.



To indicate the direction and the sequence and relation between processes

Checks needed at every process

- ▶ Analysis of Product Integrity and Control Concerns (*identification of potential risk*).
- ▶ Determine Control Points (*Points to control the potential risk*).
- ▶ Establish Preventative Measures (*activities to manage the risk*).
- ▶ Establish Monitoring Procedures (*verification of implementation actions*).
- ▶ Establish Corrective Measures (*activities to address NCs*).
- ▶ Establish Verification Procedures (*to verify compliance*)
- ▶ Establish Record Keeping and Documentation Procedures

Seed production work flow

Planting preparation-site selection soil preparation and equipment preparation



Planting and equipment cleaning



Crop husbandry



Harvest and post harvest



Seed processing and storage

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Planting Preparation

- ▶ Selection of a Agro-climatic Region
- ▶ Grower selection
- ▶ Seed field Selection,
- ▶ Selection of variety
- ▶ Equipment Preparation
- ▶ Soil Preparation
- ▶ Seed source
- ▶ Isolation requirements

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Planting

Observe the following

- ▶ Time of planting,
- ▶ Seed Rate,
- ▶ Method of sowing,
- ▶ Depth of sowing,
- ▶ Verification of seed type,
- ▶ Seed treatment,
- ▶ Machine effectiveness,
- ▶ Machine cleaning,
- ▶ Seed packaging and labels preservation

Crop husbandry

- ▶ Weeding
- ▶ Disease and pest control
- ▶ Nutrition
- ▶ Rouging
- ▶ Detasselling
- ▶ Supplemental pollination
- ▶ Irrigation
- ▶ Notification for official inspection
- ▶ Crop Compliance checks
- ▶ Inspection advice implementation

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Harvest and Post Harvest

- ▶ Time of harvest
- ▶ Harvesting mode (machine or hand)
- ▶ Separation of males and females (hybrids)
- ▶ Identification of harvested raw seed
- ▶ Shelling
- ▶ Packaging and marking
- ▶ Transportation
- ▶ Separation from admixture
- ▶ Samples for post harvest tests
- ▶ Post harvest soil monitoring

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Seed processing

- ▶ Seed Intake registration
- ▶ Seed handling
- ▶ Seed drying
- ▶ Seed cleaning
- ▶ Seed grading
- ▶ Assessment of quality
- ▶ Seed treatment
- ▶ Seed sampling
- ▶ Seed packaging
- ▶ labelling

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Seed storage

- ▶ Type of seed
- ▶ Seed quality factors
- ▶ Storage conditions
- ▶ Packaging material
- ▶ Seed moisture content
- ▶ Storage method
- ▶ Store capacity and design

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END

Thank you

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Exercise: Planting Preparation SOP & Flowchart.

- ▶ Selection of a Agro-climatic Region
- ▶ Grower selection
- ▶ Seed field Selection,
- ▶ Selection of variety
- ▶ Equipment Preparation
- ▶ Soil Preparation
- ▶ Seed source
- ▶ Isolation requirements

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Exercise: Planting SOP & flowchart Preparation

- ▶ Time of planting,
- ▶ Seed Rate,
- ▶ Method of sowing,
- ▶ Depth of sowing,
- ▶ Verification of seed type,
- ▶ Seed treatment,
- ▶ Machine effectiveness,
- ▶ Machine cleaning,
- ▶ Seed packaging and labels preservation

Exercise: Crop husbandry SOP & flowchart Preparation

- ▶ Weeding
- ▶ Disease and pest control
- ▶ Nutrition
- ▶ Rouging
- ▶ Detasselling
- ▶ Supplemental pollination
- ▶ Irrigation
- ▶ Notification for official inspection
- ▶ Crop Compliance checks
- ▶ Inspection advice implementation

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Exercise: Harvest and Post Harvest SOP & flowchart Preparation

- ▶ Time of harvest
- ▶ Harvesting mode (machine or hand)
- ▶ Separation of males and females (hybrids)
- ▶ Identification of harvested raw seed
- ▶ Shelling
- ▶ Packaging and marking
- ▶ Transportation
- ▶ Separation from admixture
- ▶ Samples for post harvest tests
- ▶ Post harvest soil monitoring

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Exercise: Seed processing SOP & flowchart Preparation

- ▶ Seed Intake registration
- ▶ Seed handling
- ▶ Seed drying
- ▶ Seed cleaning
- ▶ Seed grading
- ▶ Assessment of quality
- ▶ Seed treatment
- ▶ Seed sampling
- ▶ Seed packaging
- ▶ labelling

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Exercise: Seed storage SOP & Flowchart Preparation

- ▶ Type of seed
- ▶ Seed quality factors
- ▶ Storage conditions
- ▶ Packaging material
- ▶ Seed moisture content
- ▶ Storage method
- ▶ Store capacity and design

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