

SEED SAMPLING

The seed quality testing is carried out on seed samples drawn from seed lot to be used samples drawn from seed lot to be used for cultivation.

Different terms of Sample:

Seed lot: A lot is a specific quantity of seed, physically identifiable, in respect of which the analysis report may be issued.

Primary sample: a small portion taken from different representative parts of the lot

Composite Sample: a mixture of all the primary samples taken from the lot

Submitted sample: the sample submitted to the testing laboratory

Working sample: a reduced quantity of sample taken from submitted sample in the laboratory, for use in a given quality test.

Equipments used for sampling:

1. Sleeve or Stick type trier
2. Bin sampler
3. Nobbie trier

Methods of Sampling:

1. Mechanical divider method: Conical divider (Boerner divider) ,the soil divider (Riffle type) and the centrifugal divider (Gamet type)
2. Modified halving method
3. Random cup method
4. Spoon method
5. Combined divider-spoon method

Sampling Intensity in bulk sampling

Lot size	Minimum number of primary samples to be taken
Less than 50 kg	Three
50-500 kg	Five
501-3000 kg	One primary sample for each 300 kg, but not less than total of five.
3001-20,000 kg	One primary sample for each 500 kg, but not less than a total of ten
20,000 kg and above	One primary sample for each 700 kg, but not less than 40 samples.

Sampling intensity in bag sampling

No. of containers	Sample intensity
Up to 5	Sample must be drawn from each container
6-30	At least one container out of three containers. Minimum 5
31 or more	At least one container out of five containers. Minimum 10 samples

SUBMITTED AND WORKING SAMPLE SIZE OF DIFFERENT CROPS

Crops	Submitted sample	Working sample	Crops	Submitted sample	Working sample
CEREALS			VEGETABLES		
Barley	1000	120	Amaranths	70	7
Bajra	150	15	Ash gourd	700	70
Finger millet	60	6	Bittergourd	1000	450
Maize	1000	900	Bottle gourd	700	70
Rice	400	40	Bhindi	1000	140
Sorghum	900	90	Brinjal	150	15
Wheat	1000	120	Cabbage	100	10
PULSES			Carrot	30	3
Bengal gram	1000	1000	Cauliflower	100	10
Black gram	1000	150	Chillies	150	15
Cowpea	1000	400	Cluster bean	1000	100
French bean	1000	700	Cucumber	150	70
Green gram	1000	120	Musk melon	150	70
Horse gram	800	80	Onion	80	8
Lablab	1000	500	Potato(tps)	Na	Na
Lentil	600	60	Potato(tubers)	Na	Na
Pea	1000	900	Pumpkin	350	180
Rea gram	1000	300	Radish	300	30
FIBER CROPS			Summer squash	1000	700
Cotton hybrid(fuzzy)	350	35	Tomato	70	7
Cotton hybrid (delinted)	250	25	Water melon	1000	250
Cotton variety (delinted)	350	35	FORAGE CROPS		
Cotton variety (fuzzy)	1000	350	Berseem	60	6
Jute	150	15	Clover	25	5
Castor	1000	500	Lucerne	50	5
Groundnut(shelled)	1000	600	Lupin	1000	450
Groundnut(pod)	1000	1000	Napier grass	150	15
Linseed	150	15	Stylo	70	7
Mustard	160	16	Setaria	25	2
Rape seed	100	10	SUGARS		
Sesame	70	7	Sugar beet	500	50
Soybean	1000	500			
Sunflower hybrid	250	125			
Sunflower variety	1000	250			

Components of Seed sample:

- a) Pure seeds (target crop), b) Physical impurities (Weed seeds, Other crop seeds, Inert matter)
- c) Genetical impurities: Variant genotypes of the same species and Other varieties

Methods of sampling

1. Hand sampling

This is followed for sampling the non free flowing seeds or chaffy and fuzzy seeds such as cotton, tomato, grass seeds etc. In this method, it is very difficult to take samples from the deeper layers of bag. To overcome this, bags are emptied completely or partly and then seed samples are taken. While removing the samples from the containers, care should be taken to close the fingers tightly so that no seeds escape.

2. Sampling with triers/Probe

By using appropriate triers, samples can be taken from bags or from bulk. The triers are used for taking free flowing seed samples.

a) Bin samplers

Used for drawing samples from the lots stored in the bins.

b) Nobbe Trier

The name was given after the father of seed testing Fredrick Nobbe. This trier is made in different dimensions to suit various kinds of seeds. It has a pointed tube long enough to reach the centre of the bag with an oval slot near the pointed end. The length is very small. This is suitable for sampling seeds in bag not in bulk.

c) Sleeve type triers or stick triers

It is the most commonly used trier for sampling: There are two types viz., 1. With compartments 2. Without compartments. It consists of a hollow brass tube inside with a closely fitting outer sleeve or jacket which has a solid pointed end. Both the inner tube as well as the outer tube have been provided with openings or slots on their walls. When the inner tube is turned, the slots in the tube and the sleeve are in line. The inner tube may or may not have partitions.

This trier may be used horizontally or vertically. This is diagonally inserted at an angle of 30° in the closed position till it reaches the centre of the bag. Then the slots are opened by giving a half turn in clockwise direction and gently agitated with inward push and jerk, so that the seeds will fill each compartment through the openings from different layers of the bag, then it is again closed and with drawn and emptied in a container.

