

**APPENDIX-I**

**LABELLING OF BREEDER SEED**

Breeder seed shall be supplied in sealed containers, duly stitched and sealed. A cloth-lined label of 12 cm x 6 cm containing following information shall be fixed on the container.

	Label No.
Crop	
Variety	
Class of seed	
Lot No.	Breeder seed
Date of test	
*Pure seed	%
*Inert matter	%
*Germination	%
**Oil content	%
Producing Institution (name and address)	

\*Based on actual.

\*\*It shall be applicable for sunflower crop only.

‘The container should also have printed on it and the kind, variety and name of Institution’

2. The label shall be rubber-stamped with signature, name and designation of the concerned breeder. Colour of the label shall be Golden Yellow No. 356 (IS:5-1978)
3. Every breeder/breeding institute shall maintain the account of labels printed and issued.

**CONDITIONS FOR INTER-CROPPING DURING CERTIFIED SEED  
PRODUCTION OF OILSEEDS AND PULSES**

- (i) Inter-cropping will be applicable to oilseeds and pulses crops only for production of certified seeds class. The foundation seed class shall be raised strictly as a single crop only;
- (ii) Other types of cropping patterns such as mixed cropping etc. will not be permitted;
- (iii) The crops selected for inter-cropping should belong to different genus and preferably with different maturity;
- (iv) Only basic crop (Seed Crop) pertaining to oilseeds or pulses as the case may be will be registered for certification and companion crop will not be eligible for certification.
- (v) It should be ensured that the number of rows of seed crop alternating with the companion crop are uniform throughout the field;
- (vi) The Certification Agencies will prepare a list of the crop combinations which may be followed in respective States. The list so prepared will be circulated among the seed producers in advance. At the time of deciding the crop combinations, the Certification Agencies will ensure that :
  - (a) the companion crop does not hamper the operation needed for seed crop;
  - (b) it does not starve the seed crop of nutrients and moisture;
  - (c) it does not mature simultaneously with the seed crop or it does not carry weed seeds which may mix with the seed crop at maturity;
  - (d) it does not have common pests and diseases; and
  - (e) it does not render certification work difficult.

## CERTIFICATION STANDARDS FOR OTHER DISTINGUISHABLE VARIETIES

Maximum number of Seeds/kg			
Crop	Foundation	Certified	
<b>CEREALS</b>			
1.	Barley/Hybrids	10	20
2.	Paddy/Hybrids	10	20
3.	MaizeInbreds	5	-
4.	Maize Hybrids	-	10
5.	MaizeComposites	10	20
6.	Sorghum (O.P.) (Forage)	10	20
7.	Sorghum Hybrids	10	20
<b>PULSES</b>			
1.	Mothbean	10	20
2.	Lentil	10	20
3.	Khesari	10	20
4.	Green gram	10	20
5.	Black gram	10	20
6.	Pigeonpea	10	20
7.	Bengal gram	5	10
8.	Cowpea	5	10
9.	Horse gram	5	10
10.	Indian bean	5	10
11.	Peas	5	10
12.	Rajmas	5	10

Crop	Maximum number of Seeds/kg	
	Foundation	Certified
<b>OILSEEDS</b>		
1. Soybean	5	10
2. Castor/Hybrid	5	10
3. Rapeseed/Mustard	10	20
4. Linseed	10	20
5. Niger	10	20
6. Taramira	10	20
7. Sesame	10	20
8. Jute	10	20
<b>FORAGE CROPS</b>		
1. Cluster bean	10	20
2. Indian clover	10	20
3. Marvel grass	10	20
4. Oats	10	20
5. Rice bean	10	20
6. Stylo	10	20
<b>VEGETABLES</b>		
1. Bitter gourd/hybrids	5	10
2. Ridge gourd/hybrids	5	10
3. Sponge gourd/hybrid	5	10
4. Water melon/hybrid	5	10
5. Okra	10	20
6. Amaranth	10	20
7. Kasuri methi/methi	10	20
8. Lettuce	10	20
9. Carrot/hybrid	5	10

**DETERMINATION OF OTHER DISTINGUISHABLE VARIETIES**

**1. Object**

The object of the determination is to estimate the number of seeds of other distinguishable varieties present in a seed lot of designated variety.

**2. Field of Application**

The determination is valid only if the cluster is stated by the sender of the sample and if the authentic standard sample of the cultivar is available for comparison in the laboratory.

**3. General principles**

The determination shall be made only on the basis of readily apparent differences in the stable and well-known morphological characters of the seed. Whenever difference is not clearly distinguishable or it has occurred due to other physiological factors, such as frost, drought, immaturity, storage or due to any other reasons which have affected size, shape and luster of the seed the Seed Analyst should not classify these seeds as 'ODV'.

**4. Apparatus and facilities**

- i. Work Board, Magnifier, Stereoscopic Microscope, Spatula and Forceps.
- ii. Authentic samples of the notified cultivars of different crops and vegetable seeds.

**5. Procedure**

This determination must be made before conducting the physical purity analysis

- i. Working sample:  
The whole submitted sample must be used for marketing the determination. The Analyst should, therefore, weigh the submitted sample and record the weight on the analysis card.
- ii. The sample should be examined under magnification to determine the number of seeds of the other cultivar present in the sample.

## Calculation and expression of the results

The results of the investigation are expressed as the number of seeds belonging to the other cultivar found in the actual quantity examined. In addition, the number per unit weight (e.g. per kg) may be calculated.

## Reporting the results

The actual weight of the seed examined and the number of the seeds of the other cultivar present in the sample shall be reported on the Analysis Certificate.

## II. WEIGHT DETERMINATION

The main objective of the test is to determine the weight of 1000 seeds.

Proceed as under:

1. Make purity analysis of the sample
2. Place the pure seed fraction separately
3. Count 100 seeds each in 8 replicates
4. Weight them.
5. Calculate the weight per 1,000 seed in gms.
6. Calculate the variance, standard deviation and co-efficient of variation as follows:

$$\text{Variance} = \frac{n(\sum X^2) - (\sum X)^2}{n(n-1)}$$

where X = weight of each replicate  
n = Number of replicates.

## MAXIMUM LOT SIZE

Crop	Maximum lot size (Quintals)
1	2
<b>Cereals</b>	
Barley	200
Paddy	200
Wheat	200
Triticale	200
<b>Millets</b>	
Maize	400
Sorghum	100
Pearlmillet (Bajra)	100
Barnyard millet (Sawan)	100
Common millet (Cheema)	100
Finger millet (Ragi)	100
Italian millet (Kangni)	100
Kodo millet (Kodo)	100
Little millet (Kutki, samai)	100
<b>Pulses</b>	
Black gram (Urdbean)	200
Chikling vetch (Khesari)	200
Cowpea (Asparagus bean)	200
Rajmash (French bean)	200
Gram (Bengal gram)	200
Green gram (Mung bean)	200
Horse gram (Kulthi)	200
Indian bean (Sem)	200
Moth bean (Kidney bean)	200

Lentil	100
Pea	200
Pigeon pea (Arhar)	200
<hr/>	
<b>Oilseeds</b>	
<hr/>	
Castor	200
Groundnut	200
Rapeseed & Mustard	100
Linseed	100
Niger (Ramtil)	100
Rocket Salad (Taramira)	100
Safflower (Kardi, Kusum)	100
Sesame (Til)	100
Soybean	200
Sunflower	200
<hr/>	
<b>Fibres</b>	
<hr/>	
Cotton	200
Jute	100
<hr/>	
<b>Forages</b>	
<hr/>	
Alfa alfa (Lucerne)	100
Berseem (Egyptian clover)	100
Birdwood grass	200
Buffel grass	100
Cluster bean (Guar)	200
Dharaf grass	100
Dinanath grass	100
Fenugreek (methi)	100
Guinea grass	100
Marvel grass	100
Oats	200



Rice bean	100
Setaria grass	100
Sweet clover (Senji)	100
Stylo	100
Teosinte	200
<hr/>	
<b>VEGETABLE CROPS</b>	
<hr/>	
<b>Tubers &amp; Rhizomes</b>	
<hr/>	
Seed potato	400
True potato seed (TPS)	100
Lesser yam	400
<hr/>	
<b>Cucurbits</b>	
<hr/>	
Ashgourd (Petha)	200
Bottle gourd	200
Bitter gourd	200
Cucumber	100
Chow-chow	400
Indian squash (Tinda)	200
Longmelon (Kakri)	100
Muskmelon	100
Pumpkin	100
Ridge gourd	200
Snapmelon (Phoont)	100
Snake gourd	200
Sponse gourd	200
Summer squash (Vegetable marrow, chappan kaddu)	200
Watermelon	200
Winter squash	200
<hr/>	

<b>Fruit Vegetables</b>	
Brinjal (eggplant)	100
Hot pepper (chilli)	100
Okra (Bhindi)	200
Sweet pepper	100
Rat-tail radish (Mungra)	100
Tomato	100
<b>Green/Leafy Vegetables</b>	
Amaranth	100
Asparagus	200
Celery	100
Lettuce	100
Parsley	100
Spinach	100
Spinach beet	200
<b>Cole Crops</b>	
Broccoli	100
Cabbage	100
Cauliflower	100
Chinese cabbage (heading and non-heading)	100
Knol-kohl	100
<b>Bulb Vegetables</b>	
Garlic	400
Multiplier onion	400
Onion	100
<b>Root Vegetables</b>	
Carrot	100
Celeriac	100

Garden beet	200
Radish	100
Sugar beet	200
Sweet Potato	400
Turnip	100

---

**PROCEDURE FOR CONSTRUCTION OF LOT NUMBERS**

The lot number will have four parts. Each part will signify and conform to the details given as under:

**1. First Part**

This shall be called the “Month-Year Code” and will indicate the month and year in which the concerned seed crop was harvested. The month will be represented by its abbreviated form and the year will be represented by the last two digits of the calendar year, such as 89 for 1989 A.D., 90 for 1990 A.D., 00 for 2000 A.D. and 01 for 2001 A.D. The abbreviated form to be used for each month is given as under:

<b>Month</b>	<b>Abbreviated form</b>
January	JAN
February	FEB
March	MAR
April	APR
May	MAY
June	JUN
July	JUL
August	AUG
September	SEP
October	OCT
November	NOV
December	DEC

**2. Second Part**

This shall be called the “Production Location Code” and will indicate the State or Union Territory, where the concerned seed field(s) was/were located. For this purpose, each State and Union Territory is allotted a permanent numerical as shown below:

<b>Numerical</b>	<b>State/Union Territory</b>
01	Andhra Pradesh
02	Arunachal Pradesh
03	Assam

<b>Numerical</b>	<b>State/Union Territory</b>
04	Bihar
05	Goa
06	Gujarat
07	Haryana
08	Himachal Pradesh
09	Jammu & Kashmir
10	Karnataka
11	Kerala
12	Madhya Pradesh
13	Maharashtra
14	Manipur
15	Meghalaya
16	Mizoram
17	Nagaland
18	Odisha
19	Punjab
20	Rajasthan
21	Sikkim
22	Tamil Nadu
23	Tripura
24	Uttar Pradesh
25	West Bengal
26	Andaman & Nicobar Islands
27	Chandigarh
28	Dadra & Nagar Haveli
29	Delhi
30	Daman & Diu
31	Lakshadweep
32	Puducherry
33	Uttarakhand
34	Chhattisgarh
35	Jharkhand

### **3. Third Part**

(a) This shall be called the “Processing Plant Code” and will indicate the seed processing plant where the relevant lot was processed. For this purpose, the Certification Agency shall allot a numerical commencing from 01 to each seed processing plant within its jurisdiction irrespective to whom it belongs.

(b) In crops like groundnut, potato, sweet potato, tapioca etc. which may not be brought to the processing plant for post-harvest operations including grading, sorting, packing etc. the individual centre where such operations are carried out will be treated as a “Processing Plant” for assigning the Processing Plant Code.

#### **4. Fourth Part**

This shall be called the “Seed Produce Code”. It will indicate ultimate serial number of an individual lot. The procedure for assigning this code will be based on unit of certification. For this purpose, the Certification Agency shall allot a numerical commencing from 01 to each unit of certification. However, if seeds of more than one unit are bulked together then bulked unit will be treated as one unit. If the quantity of the seed from one unit of certification exceeds the maximum limit of lot size, it will be further sub-divided into a separate lot, in such cases Roman numerical commencing from (i) will be suffixed with seed produce code within brackets, for example if 586 quintals wheat seed is obtained from one unit of certification, it will necessitate the sub-division of the produce into three separate lots (200, 200 and 186 qtls.) if 01 is allotted to “Seed Produce Code”, then sub-divided lots will be represented as 01 (i), 01(ii) and 01(iii).

5. All the four parts of the lot number shall be written in series with a ‘dash (-)’ between first, second, third and fourth parts to distinctly indicate the code number of each part. An example is shown below:

Lot No. --- MAY 88-12-01-01

MAY 88 --- Seed harvested in May 1988.

12 --- Seed crop raised in Madhya Pradesh

01 --- Seed processed in a processing plant identified as number 01 by the Madhya Pradesh State Seed Certification Agency.

01 --- Seed Produce Code which will trace to the particular unit of certification.

## SCREEN APERTURE SIZE FOR SEED PROCESSING

S.No.	Crop	Screen aperture size in millimeters	
		Top screen	Bottom screen
1	2	3	4
<b>Cereals</b>			
1.	Barley:		
	2 Rowed	6.50 r	2.30 s
	6 Rowed	6.50 r	2.10s, 2.20 s
2.	Paddy:		
	Coarse grain/ bold type	2.8s, 9.0r	1.85s
	Medium slender	2.8s, 9.0r	1.80s
	Fine/superfine	2.8s, 9.0r	1.70s
3.	Wheat :		
	<i>T. aestivum</i>	6.00 r	1.80 s, 2.10 s, 2.30 s
	<i>T. durum</i>	6.00 r	2.10 s, 2.30 s
4.	Triticale	6.00 r, 7.00 r	2.10 s, 2.30 s
<b>Millets</b>			
1.	Maize except popcorn	10.50 r, 11.00 r	6.40 r, 7.00 r
2.	Popcorn	8.75 r	4.25 r, 4.75 r
3.	Sorghum	4.75 r	2.10 s, 3.50 r
4.	Pearlmillet	3.25 r	1.30 r, 1.30 s, 1.40 r, 1.40 s, 1.60 r, 1.90 r
5.	Barnyard millet	3.25 r	1.40 s, 1.80 r
6.	Common millet	3.80 r	1.60 s
7.	Finger millet	3.25 r	1.40 s
8.	Italian millet	3.25 r	1.20 s, 1.30 r

9.	Kodo millet	3.80 r	1.60 s, 2.00 r
10.	Little millet	2.50 r	1.60 r

---

### Pulses

---

1.	Black gram	5.00 r	2.80 s
2.	Bengal gram	9.00 r, 10.00 r	5.00 r, 5.50 r, 6.00 r
3.	Cowpea	7.00 r	3.50 r, 4.00 r
4.	Green gram	5.50 r	2.80 s, 3.20 s
5.	Indian bean (Sem)	8.75 r	4.75 s
6.	Lentil	7.00 r	3.20 s, 4.00 r, 4.75 r
7.	Pigeon pea (Arhar)	9.50 r	3.20 s, 4.00 r, 4.75 r
8.	Rajmash (French bean)	11.0 r	4.75 s

---

### Oilseeds

---

1.	Castor	13.50 r	4.40 s, 6.00 r
2.	Rapeseed & Mustard	2.75 r, 3.00 r, 3.25 r	0.90 s, 1.00 s, 1.10 s, 1.40 r
3.	Linseed	4.00 r	2.00 r
4.	Niger	3.20 r	1.20 s
5.	Rocket salad (Taramira)	3.20 r	1.10 s, 1.20 s
6.	Safflower	7.25 r	1.20 s
7.	Sesame	2.40 r	1.60 r, 1.90 r
8.	Soybean	8.00 r	4.00 s
9.	Sunflower	9.00 r	2.40 s

---

### Fibres

---

1.	Cotton:		
	Fuzzy	14.30 r	5.20 s
	Delinted	7.20 r	3.90 s
2.	Jute:		
	<i>Capsularis</i>	2.40 r	1.20 r, 1.60 r



	<i>Olitorius</i>	2.00 r	0.80 r, 1.00 r
<b>Forages</b>			
1.	Berseem:		
	Diploid	2.00 r	1.00 s
	Tetraploid	2.40 r	1.20 s
2.	Forage sorghum	4.00 r, 4.75 r	2.10 s
3.	Guar (Cluster bean)	6.00 r	1.80 s
4.	Guineagrass	2.10 r	2.40 x 0.65 m
5.	Indian clover (Senji)	2.10 r	2.40 x 0.80 m
6.	Lucerne	2.50 r	0.70 x, 0.70 x 0.70 m
7.	Oats	7.50 r	2.00 s
8.	Setaria grass	2.40 r	1.90 s
9.	Sudan grass	4.00 r	1.20 s, 1.30 s
<b>Vegetable crops</b>			
<b>Cucurbits</b>			
1.	Ashgourd	9.50 r	6.40 r
2.	Bittergourd	11.00 r	6.50 r
3.	Bottlegourd	11.00 r	6.50 r
4.	Cucumber	8.00 r	2.00 r, 2.50 r
5.	Indian squash	9.50 r	6.40 r
6.	Longmelon	5.00 s	1.00 r
7.	Muskmelon	5.00 s	1.00 r
8.	Pumpkin	11.00 r	6.50 r
9.	Ridgegourd	9.50 r	6.40 r
10.	Snakegourd	9.50 r	6.40 r
11.	Snapmelon	5.00 s	1.00 r
12.	Spongegourd	9.50 r	6.40 r
13.	Summer squash	8.00 r	2.00 r
14.	Watermelon	6.00 r	1.80 s

<b>Fruit Vegetables</b>			
1.	Brinjal	4.00 r	0.80 s, 2.10 r
2.	Capsicum (Sweet pepper)	4.00 r	0.80 s, 2.10 r
3.	Chilli (Hot pepper)	4.00 r	0.80 s, 2.10 r
4.	Okra (Bhindi)	6.00 r	4.30 r
5.	Rat-tail radish	4.50 r	2.00 r
6.	Tomato	4.00 r	0.80 s, 2.10 r
<b>Greens/Leafy Vegetables</b>			
1.	Asparagus	6.00 r	2.40 r
2.	Celerey	1.80 r	0.40 s, 0.64 x 0.64 m
3.	Fenugreek (Methi):		
	Large & Medium	3.25 r	1.20 s
	Small	2.10 r	0.69 x 0.69 m
4.	Lettuce	2.30 r	0.80 r
5.	Parsley	2.75 r	0.75 s
6.	Spinach beet	5.50 r	1.80 s, 1.85 s, 2.25 r
7.	Spinach:		
	Round seeded	5.00 r	2.75 r
	Sharp seeded	8.00 r	2.50 r
8.	Coriander (All varieties)	4.25 r	2.5 s
<b>Cole Crops</b>			
1.	Cabbage	2.75 r	0.90 s
2.	Cauliflower	2.75 r	1.10 s
3.	Broccoli	2.75 r	1.10 s
4.	Chinese cabbage (heading & Non heading)	2.75 r	0.90 s
5.	Knol-kohl	2.75 r	1.10 s
<b>Bulbs crops</b>			
1.	Onion	3.80 r	2.00 r

<b>Root Crops</b>			
1.	Carrot	2.30 r	1.00 r
2.	Celeriac	1.80 r	0.40 s, 0.65 x 0.65 m
3.	Sugarbeet:		
	Monogerm	9.00 r	3.00 r
	Multigerm	9.00 r	2.50 s
4.	Gardenbeet	9.00 r	3.00 r
5.	Radish	4.50 r	2.00 r
6.	Turnip	1.80 r	1.20 r

r = Screens with round perforations  
 s = Screens with slotted (oblong) perforations  
 m = Wiremesh sieves

**APPENDIX-VIII**

**SCREEN APPERTURE FOR SEED PROCESSING OF CERTAIN VARIETIES**

<b>S.No.</b>	<b>Name of the Crop</b>	<b>Varieties/Hybrids</b>	<b>Recommended BottomScreen Size in millimeter</b>
1.	Sorghum	CSH-1,CSH-5,CSH-6,CSH-9, SPH388, SPV-1359	3.2 r
2.	Cotton	AKA-4, AKA-5, AKA-9	2.8 s
3.	Cotton	DHY-286, AKA-8401, AKA-081, LRA-5166, AKH-84365, NHH-44, PKV Hy-2, PKV Hy-3, Dhan Laxmi	3.2 s
4.	Cotton	Surbhi, RCH-2, RCH-23, MCU-5, MCU-5	3.6 s
5.	Soybean	JS-335, PK-472, MACS-13,MACS-124, MACS-58, PKV-1, CO.1, CO.3, K-851, PKV-416, Soya-Harit	3.6 r
6.	Sunflower	EC-68414, Morden, Surya, PKV SH-27, AKSF-9, PSFH-67, DSH-1, TCSH-2, FSFH-67, F-354RI	2.3 s
7.	Sunflower	CMS-2A, CMS-2B	1.6 s
8.	Sunflower	AK 1-R	1.4 s
9.	Sunflower	TCSH-1, KBSH-44, KBSH-42, KBSH-1	2.5 s
10.	Safflower	Bhima, Tara, Girna, Sharda, N-7	2.4 s
11.	Green gram	Kopargaon, Pusa Vishal, AKM-8803, TARM-2, TARM-18, T-9, K-851, TAP-7	2.8 s
12.	Black gram	T-9, TAU-1, TAU-2, TAU-4, No.55	2.8 s
13.	Chickpea	C-235, HC-1, JAK-9218, AKG-46	3.0 r

## GROW-OUT TEST FOR CULTIVAR PURITY

### I. Object

To determine the genetic purity of a given seed lot of a released cultivar, and the extent to which the submitted sample conforms to the prescribed standards.

### II. Sampling

The samples for grow-out test are to be drawn simultaneously with the samples for other quality tests and the standard procedure shall be followed.

The size of the submitted sample will be as follows:

1,000 gm	--for maize, cotton, groundnut, soybean and species of other genera with seeds of a similar size;
5,00 gm	--for sorghum, wheat, paddy and species of other genera with seeds of similar size;
250 gm	-- <i>Beta</i> and species of other genera with seeds of similar size;
100 gm	--for bajra, jute and species of all other genera;
250 tubers/ planting stakes/ roots/corns	--seed potato, sweet potato and other vegetatively propagating crops.

### III. Procedure

While raising the desired population, standard and recommended agronomic/cultural practices (e.g., field preparation, size of the plot, row length, distance between rows, distance between plants, irrigation, fertilization etc.) in respect of individual crops are to be followed both for the unknown sample and its control.

The possibility to prove the genuineness of a cultivar by grow-out test is based on hereditary characteristics of the plants. Usually the cultivar differences are more distinct if growth conditions are favourable. Crop should be so grown that the genetical difference express themselves as clearly as possible. In self-fertilizing species the individual of a cultivar may be theoretically identical whereas the individual of a cultivar in cross-fertilizing species may not be genetically similar, but comprise a number of types. Therefore, it is easier to determine the cultivar purity in self-fertilizing species than in cross-fertilizing species where the examination for greater part is based on the mutual comparison between the samples to be tested and the standard sample. Hence, it is essential to sow the various samples of the same cultivar in succession and standard samples are sown at suitable intervals (for example, one standard sample

for every ten samples to be tested). The size of plots, row length etc. will differ crop to crop. However, the specifications for different crops are indicated in the following table. The Certification Agency may change the specification if considered necessary:

S. No.	Crop	Row length (meters)	Plant to plant distance (cm)	Space between rows (cm)	Space between plots (cm)	No. of replications
1.	Wheat, barley, oats	6	2	25	50	2
2.	Pea, cowpea	6	10	45	90	2
3.	Chickpea, green gram, black gram	6	10	30	60	2
4.	Maize	10	25	60	90	2
5.	Hybrid cotton	5	10	45	45	2
6.	Paddy:					
	(a) very early to medium	6	15	20	45	2
	(b) late and very late	6	25	30	60	2
7.	Pearlmillet	6	10	60	90	2
8.	Sorghum	6	10	45	60	2

The seed rate may be adjusted depending on the germination percentage of individual samples and the sowing may be done by dibbling. Subsequent thinning is not recommended.

The test crop may be raised alongwith the control either in the areas recommended for the variety or in off-season nurseries. The authentic control sample from the originating plant breeder/breeding institute is to be maintained by the testing station/Agency following standard procedures. A minimum of two hundred plants from control sample will be raised along with the test crop.

#### IV. Observations

(a) All plants are to be studied keeping in view the distinguishing characters described for the cultivar both in the test crop as well as the control. Necessary corrections may be incorporated if the control is found to be heterogenous.

(b) Observations are made during the full growing period, or for a period specified by originating breeding institute and deviations from the standard sample of the same variety are recorded. At suitable development stage the plots are examined carefully and plants which are obviously of other cultivar are counted and recorded.

The specification of the field plot, row length etc. may be determined from the information given in para III above. And on the basis of the number of plants required for taking observations is dependent on maximum permissible offtypes which are as follows:

Maximum permissible Off-types (%)	Minimum genetic purity (%)	Number of plants required per sample for observation
0.10	99.9	4,000
0.20	99.8	2,000
0.30	99.7	1,350
0.50	99.5	800
1.00 and above	99.0 and below	400

#### V. Calculation, Interpretation and reporting of the result

Percentage of other cultivars, other species or aberrant found may be calculated upto first place of decimal.

While interpreting the result, use of tolerance may be applied by using the reject Table given below at serial No. VII.

#### VI. Analysts for grow-out test

The analysts employed for conducting 'grow-out test' should possess the basic qualification as identified under Seeds Rules, 1968.

#### VII. Reject number for prescribed standards and sample size.

Standard	Reject numbers for sample size of	
	800	400
99.5 (1 in 200)	8	*
99.0 (1 in 100)	16	8
95.0 (5 in 100)	48	24
90.0 (10 in 100)	88	44
85.0 (15 in 100)	128	64

\*Indicates that the sample size is too small for a valid test.

**SPECIFICATION FOR CERTIFICATION TAG**

Length : 15 cm  
 Breadth: 7.5 cm

Quality---it shall be made of durable material such as thick paper, paper with cloth lining, wax coated paper, plastic coated paper etc.

Colour—Both sides shall be white for Foundation class and blue (ISI No.---Azure blue) for Certified class.

**Contents and layout**

TAG No.....	CA's	Certified Seed
KIND.....	EMBLEM	Class of seed.....
		Certificate No.....
		Date of issue of
Variety.....	Name & Address of	Certificate.....
	Certification	Date of test.....
Lot No.....	Agency	
“Use of the seed after expiry of the validity period by any person is entirely at his risk and the holder of the certificate shall not be responsible for any damage to the buyer of seed. No one should purchase the seed if seal or the certification tag has been tampered with”		Certificate valid up to..... (Provided seed is stored under cool and dry environment)
		Validity of certificate further extended upto
Name and Full Address of the Certified Seed		.....
Producer.....		

N.B. If tag is to be affixed on a smaller container then the size of the tag may be reduced proportionately. However, length and breadth ratio and contents would remain the same.  
 (CA's : Certification Agency's)



**MODEL COMPOSITION OF THE APPELLATE AUTHORITY**

<b>The Appellate Authority</b>	All State Governments/Union Territories which have established the Certification Agency under Section 8 of the Seeds Act, 1966 shall invariably constitute an Appellate Authority under Section 11 of the Seeds Act,1966.
<b>Composition</b>	The Appellate Authority shall consist more than one member preferably three members to represent such interests as the State Government think fit, of whom at least one person shall be representative of seed producers.
<b>Term of the Appellate Authority</b>	The members of the Appellate Authority shall, unless their seats become vacant earlier by resignation, death or otherwise, be entitled to hold office for three years.
<b>Decision</b>	The Appellate Authority should ensure that decision on the appeals filed is taken expeditiously.

**EXTENSION OF THE VALIDITY PERIOD**

1. The extension of validity period of Certified seed shall be for a period of six months, at each subsequent validation as long as the seed conforms to the prescribed standards.
2. Holder of the certificate or his authorized representative may request for extension of the validity of certified seed before expiry of the previous validity period to a Certification Agency of the area in which the seed is located. He shall furnish the relevant information such as name of the crop, variety, class of seed, quantity of seed in lot, lot number, size and type of containers, number and date of certificate etc. to the Certification Agency at the time of submission of application.
3. The Certification Agency after receipt of application for extension of validity period shall verify that tags, labels and seals are intact on each seed container and arrange to draw samples and its analysis in a notified seed laboratory. The sample would be tested for physical purity, germination and insect damage.
4. If reprocessing and rebagging at the time of extension of validity is requested to a Certification Agency which has not initially certified the seed, it may be permitted provided Certification Agency is of the opinion that such operation may improve the quality of seed and seeds are not badly invaded by fungus, pest etc. Infested seed lots shall meet the conditions laid down in para XXV of the General Seed Certification Standards. Whenever such operations are undertaken a sample from each lot will be drawn before the seed containers are opened and shall be divided into three equal parts and sealed. One part shall be retained by the Certification Agency, another part by holder of the certificate or his representative and remaining sample will be sent under Registered Post to Certification Agency which had initially certified the seed. Besides this, holder of the stock shall retain at least two bags/containers for smaller packing upto 10 kg and one bag/container above 10 kg in original packing of each seed lot being validated upto the next validation or till the stock is disposed off.
5. After analysis of sample, if seed is found to conform to the prescribed standards, the Certification Agency shall extend the validity of seed for a further period of six months from the date of expiry of previous validity period or date of test, whichever is earlier. The date of test and period of validity and name of Certification Agency who has extended the validity period must be rubber stamped on the tags affixed on the seed containers. However, if new tags are required to be issued due to reprocessing and rebagging of the seed, the information indicated on the certification tags issued at the time of initial certification and name of the Certification Agency who performed the initial certification shall be recorded on the new tags. The serial numbers of new tags used for a seed lot shall be informed to the Certification Agency who performed the

initial certification. The Certification Agency shall preserve at least two tags out of the tags removed from a seed lot and ensure the destruction of remaining tags in its presence.

6. A complete record shall be maintained by the Certification Agency of each lot offered for extension of the validity period.