GUIDELINES FOR CROP CUTTING EXPERIMENTS

Sampling Design :

The sampling design adopted in the crop cutting surveys is **Multi-stage Stratified Random Sampling**. The Block / Agri. Sub-divisions have been taken as strata, the selected V.L.W. circles, within the Block as first stage units (fsu), selected village in a circle as a second stage unit (ssu), selected cultivators in a village as a third stage units and the selected plots are the ultimate stage of sampling.

Size of experimental plot:

The size and shape of the experimental plot for paddy and mustard crop is rectangular of dimension (10m x 5m) and that for wheat and potato is square of dimension (5m x 5m).

Crops	Plot Size			Area of the plot in terms of Hectare
	Length	Breadth	Diagonal distance	
Boro paddy	10 meter	5 meter	11.18 meter	$1/200^{th}$ of Hectare
Rape / Mustard	10 meter	5 meter	11.18 meter	$1/200^{th}$ of Hectare
Wheat and Potato	5 meter	5 meter	7.07 meter	$1/400^{th}$ of an hectare

Sample Size:

- Boro Paddy @ **30** nos. of sample cut to be undertaken in **each block**, of which @ 20 nos. /block for Conventional & @ 10 nos. / block for SRI method of Cultivation.
- Potato @ 20 nos. of sample cut to be undertaken in **each block**.
- Rape/Mustard & Wheat @ 20 nos. of sample cut to be under taken in **each Agri. Sub division**.

Time Schedule for carrying out different activities for undertaking CCE & submission of CCE result:

Name of the Crop	Randomly Selection of Village by SA office	Date of Submission of Exhaustive list by VLW through ASO to SA	Randomly selection of Farmers by SA & communicating to ASO & VLW	Cut off date for receiving CCE results by Directorate
Boro Paddy	30 th January	15 th February	20 th February	15 th July
Potato	20 th December	25 th December	30 th December	30 th April
Rape / Mustard	10 th November	20 th November	25 th November	15 th July
Wheat	31 st December	10 th January	15 th January	31 st May

Steps in different activities in CCE:

1. **Selection of V.L.W. Circle/Village etc.**

For Boro Paddy and Potato **Stratum: Block**

a) **Boro Paddy:**

Total number of Boro Paddy Crop Cut to be undertaken @ 30 nos./block of which, 20 nos. of cut for boro paddy grown through Conventional & 10 nos. for SRI.

In each **Block 10 nos. of VLW circles** /villages are to be selected for conducting Crop Cutting Experiments (CCEs) for Conventional, of which

- **1** (One) nos. **VLW circles** /villages are to be selected at random for **Local varieties.** Crop Cutting Experiments (CCEs) @ 2 (two) in each VLW circles /villages to be undertaken. Thus, total number crop cut for local variety would be two (1 x 2 = 2) & if there is no area coverage under local, this should included under HYV.
- **1** (One) nos.of **VLW circles /villages** are to be selected at random **for Hybrid paddy varieties**. Crop Cutting Experiments (CCEs) @ 2 (two) in each VLW circles /villages to be undertaken. Thus, total number crop cut for Hybrid paddy would be two (1 x 2 = 2).
- **8 (**eight) nos. of **VLW circles /villages** are to be selected at random **for HYVs.** Crop Cutting Experiments (CCEs) @ 2 (two) in each VLW circles

/villages to be undertaken. Thus, total number crop cut for **HYV** would be sixteen (2 x 8 =16)

In addition to this, separately 5 nos. of VLW circles / villages to be selected at random in each block for SRI & in each selected circles /villages @ 2 nos. of CCE to be undertaken. Total number of crop cut for SRI would be ten (2x5=10).

Thus, total number of CCE for Boro Paddy would be 30 (thirty) per block.

POTATO :

In each **Block 10 nos. of VLW circles** /villages are to be selected for conducting Crop Cutting Experiments (CCEs), of which

- **2** (two) nos **VLW circles** /villages are to be selected at random for **Local varieties.** Crop Cutting Experiment (CCEs) @ 1 (one) in each VLW circles /villages to be undertaken . Thus, total number crop cut for local variety would be two (1 x 2 = 2).
- **4** (four) nos **VLW circles /villages** are to be selected at random for **True Potato Seed (TPS) varieties**. Crop Cutting Experiment (CCEs) @ 1 (one) each in 3 VLW circles /villages to be undertaken. Thus, total number crop cut for **TPS variety** would be three (2 x 4 = 8).
- **5** (five) nos **VLW circles /villages** are to be selected at random for **HYVs like Khufri Jyoti etc. variety.** Crop Cutting Experiment (CCEs) @ 2 (two) in each VLW circles /villages to be undertaken. Thus, total number crop cut for **HYV (grown from potato seed)** would be fifteen (2 x 5 = 10).

  Thus, total number of CCE for Potato would be 20 (twenty) per block.

For Rape & Mustard and Wheat
Stratum: Agri. Subdivision

I) RAPE & MUSTARD

In each **Agri. Subdivision**, **10 nos. VLW circles** /villages are to be selected at random. In each selected VLW **circle** /village, 2 (two) nos. of Crop Cutting Experiments (CCEs) are to be under taken for Rape & Mustard. Thus, total number crop cut **in each Agri. Subdivision** for **rape & mustard** would be **twenty (10 x 2 = 20)**.

ii) WHEAT:

In each **Agri. Subdivision**, **10 nos. VLW circles** /villages are to be selected at random. In each selected **VLW circle** /village, 2 (two) nos. of Cutting Experiments (CCEs) are to be taken for wheat. Thus, total number crop cut **in an Agri. Sub division** for **wheat** would be **twenty (10 x 2 = 20).**

2. Procedure for Selection of VLW Circle/Villages for taking CCEs of a particular crop:-
(to be done by Office of the Superintendent of Agriculture)

a) Villages selected randomly in each block for Boro paddy & Potato
b) Villages selected randomly in each Agri subdivision for Rape/Mustard & Wheat

From the exhaustive list of villages in a block/agri subdivision , a sample of 10 villages would be selected **with equal probability without replacement (SRSWOR)** . It should be remembered that the villages to be selected should have some area at least under one of the programme crop. If however, some of the villages in the sample do not have any area under any of the programme crops, this will be replaced by other villages satisfying the criteria mentioned above. For this purpose a list of suitable number of additional villages selected at random will have to be kept ready for use.

In case of Boro paddy, in addition to this separately a sample 5 villages would be selected for undertaking SRI cut, from the exhaustive list of villages in a block.

3. Procedure for Selection of Cultivator's plot for taking crop cut :
(to be done by Office of the Superintendent of Agriculture)

For conducting the CCEs, the Statistical Inspector/ Investigator/person entrusted with the statistical works in the Office of Supdt. of Agriculture will prepare a complete list of the cultivators' for growing programme crops in each of the selected villages from the exhaustive list submitted by the concerned VLWs. From this list required number of cultivators' plot would be selected randomly using random number table.

4. Selection of Sample (Villages/ Cultivators) by Using Random Number table:

A practical method of selecting a random sample is to choose units one- by -one with the help of Table of random numbers. Random number tables are the tables of digits 0, 1,2,….9 each digit having an equal chance of selection at any draw. On the basis of number of digit, one number digit, two number digit, three number digit etc. random number table is available in **ANNEXURE–I**. Generally, one digit random numbers lies between 0 to 9, Two Digit Random number 00 to 99 & similarly, three digit

random numbers is 000 to 999 & so on. The following steps to be followed in selection of sample (villages/cultivators) from the exhaustive list.

1. Note the number of exhaustive list (Villages/ Cultivators) say, N from where sample is to be selected.
2. List al the N labeling with serial number in ascending order.
3. Check the number of digit in N & same digit random number to be considered for drawing.
4. Start with any number with in a row or column and move up and down, left and right as wishes.
5. Now, accept all those numbers which is lies with in N & beyond the value of N , numbers will be rejected.
6. Continue the process, till arrive at requisite number of sample.

By following, the above steps requisite number of sample villages & cultivators may be selected.

This is very simple method. However, this procedure of selection of sample villages or cultivators involves a number of rejections, since all numbers greater than N appearing in the table is not considered for selection. The procedure of selection of sample through the use of random number is, therefore, modified and some of these modified procedures are:

i) Remainder Approach

ii) Quotient Approach

I) Remainder Approach:

1. Let N be an r digit number and let its r digit highest multiple be N'.
2. A random number k is chosen from 1 to N' and the unit with serial number equal to the remainder obtained on dividing k by N is selected.
3. If the remainder is 0, the last unit is selected.

As an illustration, let N= 123, the highest three digit multiple of 123 is 984. For selecting a unit, one random number from 123 gives the remainder as 41. Hence, the unit with serial number 41 is selected in the sample. Similarly if the random number selected is 369, then dividing 369 by 123 leaves remainder as 0, so the unit bearing serial number 123 is selected in the sample.

iii) Quotient Approach:

1. Let N be an r-digit number and let its r-digit highest multiple be N* such that N*/N =d. A random number k is chosen from o to (N* -1) .
2. Dividing k by d, the quotient q is obtained and the unit bearing the serial number (q-1) is selected in the sample.
3. If q-1 = -1 , then unit bearing serial number N-1 is selected, and if q-1 = 0 , then unit bearing serial number N is selected.

As an illustration, let N= 16 and hence N* =96 and d= 96/16=6. Let the two digit random number chosen be 65 which lies between 0 and 95. Dividing 65 by 6 , the quotient is 10 and hence the unit bearing serial number (10-1) = 9 is selected in the sample. Further, if the random number selected is 4, then the quotient is 4/6= 0 and q-1 =-1. The unit selected is 15. Similarly, if the random number selected is 9 , then the quotient is 9/6=1 and q-1= 0. The unit selected is 16.

Example1: How to select village for taking Crop cut using random number table (Remainder Approach)

Suppose in a block there are 192 villages in total. Further suppose, we have to select 10 villages out of total 192 villages. Following randomization procedure has to be followed for section of villages where crop cutting experiment has to be conducted.

1. A list of 192 villages has to be prepared in ascending order.
2. Because, 192 is a 3-digit number, therefore, 3-digit random number table will have to be used for selection of villages.
3. The highest 3-digit random number is 999. Divide 999 by 192, the remainder will be 39. After subtracting 39 from 999, the remainder is 960. Therefore, we have to consider random numbers which are less than or equal to 960 . The random number from 961 to 999 and 000 will be rejected.
4. Suppose the Statistical Staff of Agri. Sub-Division followed **column number – 3 and row number- 2** of the 3-digit random number table. The first 10 random numbers in this column are 719, 357, 942,436, **985**, 470,107,317,226, 169 and 540. The number 985 lies between 961 and 999 and is therefore, rejected. The next number in this column is 540. Therefore, 10 numbers selected are 719, 357, 942,436, 470,**107**,317,226, **169** and 540. Since all the numbers so selected

except 107 & 169 are greater then 192, we are to divide these numbers by 192 and obtain the remainders. The remainders are 143,165,174,52,25,86, 34,192

5. Thus, Villages having serial number of 107, 169, 143,165,174, 52, 25, 86, 34, 192 will be selected for CCEs.

Example2:- How to select cultivators' plot for taking crop cut using Random number table (Remainder Approach)

Suppose the village number 107 selected above is Rampura and the total number of Cultivators' plot / dag number where the desired crop is grown in this village is 23. Since 23 is 2 digit number we will use 2 digit Random Number Table for selection of the 2 nos. Cultivators' plot / dag number. The highest 2(two) digit number is 99. Divide 99 by 23 the remainder is 7. Subtract 7 (remainder) from 99 and the remainder is 92. Therefore, we will consider 2 digit Random number which are less or equal to 92 only i.e. Random numbers from 93 to 99 will be rejected.

Suppose the 2 digit Random number **column** used by the Statistical Inspector/ Investigator is **8** and the Random number **row** allotted is **5** and we have to select **2 nos. cultivators' plot / dag numbers**.

We find that the random numbers given in **column 8 of row 5 are** : **12 and 72** . Out of these, the Random number 72 is higher than 23 and we shall take the remainder.

The remainder will be 3.

Thus the random numbers selected will be 12, 3.

So, the Dag No/Cultivator's plot having Serial number 12 & 3 will be selected for CCEs.

5. **Experimental materials required:**

Each member of the staff taking the crop cut is to be supplied with uniform equipment for his experimental work, which is known as Crop Cutting Experiment Kit. This Crop cutting Experiment Kit has to be keeping ready in Circle/ Sector Office in a sufficient numbers. The CCE Kit consists of the following:

1. One measuring tape, 30 m length.

2. Sufficient long string / rope, minimum 30 m length

3. Weighing balance with sets of standard weights of different denominations up to 5 grams,

4 Pegs/Straight bamboo poles (4 nos.),

5. Random number table,

6. Gunny bag

7. Note Book

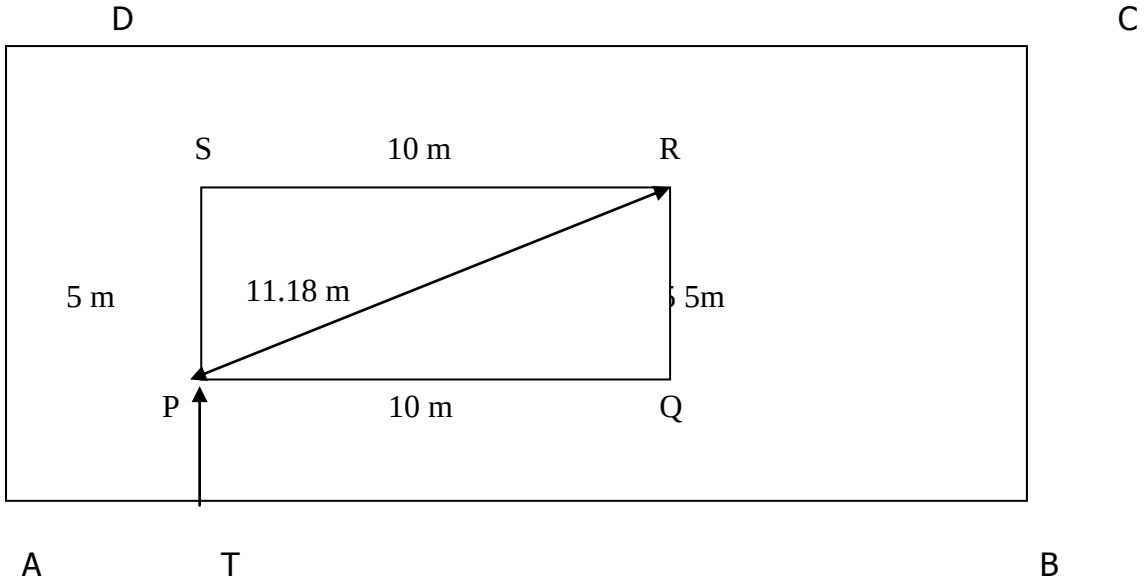
6. PROCEDURE FOR LOCATING AN EXPERIMENTAL PLOT FOR CROP CUTTING EXPERIMENTS

i) Rectangular plot of Size (10x5)

In each selected field one rectangular size (10 m x 5 m), plot is to be located at random. This is not to be done earlier than the date fixed for harvesting. Before a plot is located, make sure that the field is already selected.

The procedure for locating a random plot is as indicated below for a rectangular plot of size 10 m x 5 m):

- ✓ Let the four corners of the field in which crop cutting experiment plot is to be located be named as ABCD. Let the point "A" represents the **south-west** corner of the field. For locating south-west corner of the field, the Official taking the crop-cut should stand at this point facing the field and keeping the cut area to his right.



- ✓ The point A, the South -West corner of the field ABCD will be the starting point. For convenience, fix a bamboo pole at the starting point.
- ✓ From the starting point measure the length and breadth of the field by footsteps.
- ✓ Deduct 14 footsteps from length and 7 footsteps from breadth.

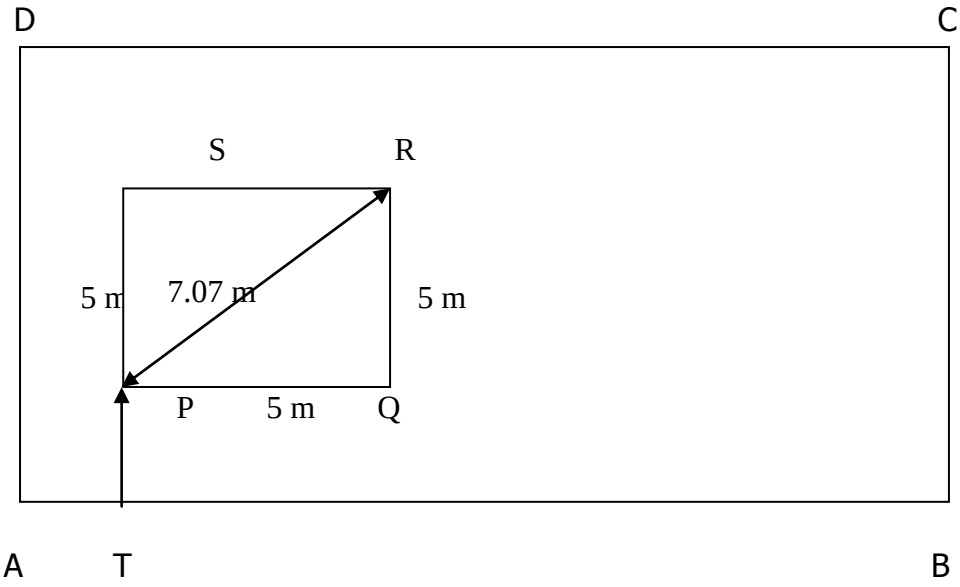
- ✓ Suppose the length and breadth of the fields as shown in Fig. above is 40 footsteps & 28 footsteps respectively. Then the length and breadth after deducting 14 footsteps & 7 footsteps respectively will be 26 & 21.
- ✓ Now select a pair of random numbers one for length and the other for the breadth from the random number table. In the above example, the random number for both length and breadth should be of two digits. Suppose Pair of random numbers for the fields for length is 11 & for breadth is 10.
- ✓ To get the experimental plot, now start walk 11steps from the starting point "A" along the length of the field. Call this point as "T". Having arrived at this point "T", enter into the field along a direction at right angle to the length of the field to a distance of 10 footsteps corresponding to the random number selected for the breadth. **Call this point as "P".**
- ✓ This point "P" will be the **south-west** corner of the desired plot "PQRS" to be harvested. Place peg at " P".
- ✓ From "P" proceed in a direction parallel to AB. With the help of tape measure a distance PQ which is exactly up to 10 meters.
- ✓ Place another peg at Q. Keep the zero point of the tape at "Q", open a total length of 16.18 meters of the tape and keep the point of the tape showing the length 16.18 meters at "P".
- ✓ Now keeping the two points viz. 0 and 16.18 meters on Q & P respectively, stretch the tape and fix the point "R" such that "PR" is of length 11.18 meters and QR is equal to 5 meters. It will be seen that the angle PQR is a right angle.
- ✓ Place peg at point " R" which is the third corner of the plot to be located.
- ✓ For obtaining the fourth point keep the two points in the tape marked 0 and 16.18 meters respectively at P & Q respectively and similar process to be adopted as stated in above paragraph to get the fourth point "S".
- ✓ Place the fourth peg at "S". The pegs PQRS indicate the four corners of the plot to be harvested.
- ✓ It should be noted that the plot PQRS should be laid out in such a way that the point P is the south -west corner of the plot to be harvested and will be the point nearest to the South – West corner of the whole field.

ii) Square plot of Size (5x5)

In each selected field one Square size (5 m x 5 m), plot is to be located at random. This is not to be done earlier than the date fixed for harvesting. Before a plot is located, make sure that the field is already selected

The procedure for locating a random plot is as indicated below for a Square plot of size 5 m x 5 m):

- ✓ Let the four corners of the field in which crop cutting experiment plot is to be located be named as ABCD. Let the point "A" represents the **south-west** corner of the field. For locating south-west corner of the field, the Official taking the crop-cut should stand at this point facing the field and keeping the cut area to his right.



- ✓ The point A, the South -West corner of the field ABCD will be the starting point. For convenience, fix a bamboo pole at the starting point.
- ✓ From the starting point measure the length and breadth of the field by footsteps.
- ✓ Deduct 7 footsteps from both length and breadth.
- ✓ Suppose the length and breadth of the fields as shown in Fig. above is 40 footsteps & 28 footsteps respectively. Then the length and breadth after deducting 7 footsteps, then length & breadth will be 33 & 21.
- ✓ Now select a pair of random numbers one for length and the other for the breadth from the random number table. In the above example, the random number for both length and breadth should be of two digits. Suppose Pair of random numbers for the fields for length is 14 & for breadth is 12.

- ✓ To get the experimental plot, now start walk 14 steps from the starting point "A" along the length of the field. Call this point as "T". Having arrived at this point "T", enter into the field along a direction at right angle to the length of the field to a distance of 10 footsteps corresponding to the random number selected for the breadth. **Call this point as "P".**
- ✓ This point "P" will be the **south-west** corner of the desired plot "PQRS" to be harvested. Place peg at " P".
- ✓ From "P" proceed in a direction parallel to AB. With the help of tape measure a distance PQ which is exactly up to 5 meters.
- ✓ Place another peg at Q. Keep the zero point of the tape at "Q", open a total length of 12.07 meters of the tape and keep the point of the tape showing the length 12.07 meters at "P".
- ✓ Now keeping the two points viz. 0 and 12.07 meters on Q & P respectively, stretch the tape and fix the point "R" such that "PR" is of length 7.07 meters and QR is equal to 5 meters. It will be seen that the angle PQR is a right angle.
- ✓ Place peg at point " R" which is the third corner of the plot to be located.
- ✓ For obtaining the fourth point keep the two points in the tape marked 0 and 12.07 meters respectively at P & Q respectively and similar process to be adopted as stated in above paragraph to get the fourth point "S".
- ✓ Place the fourth peg at "S". The pegs PQRS indicate the four corners of the plot to be harvested.
- ✓ It should be noted that the plot PQRS should be laid out in such a way that the point P is the south -west corner of the plot to be harvested and will be the point nearest to the South – West corner of the whole field.

7. **<u>Harvesting and other operations</u>:**

a) **Paddy:**

Harvest the crop, which is only within the string stretched four sides of the plot. If a bunch of plants lies on the boundary of the plot include it if more than half of it is inside the plot, otherwise reject it. It is advisable not to allow the surrounding crop of the field to be harvested until the crop within the plot is harvested and removed to the threshing ground. Collect all the harvested produce without leaving any ear-heads in the plot. Take care to see that there is no loss of the produce at the various stages, viz. harvesting, separating, carrying from the field to the threshing ground, threshing winnowing, cleaning and weighing. Care should be taken to see that every grain is

separated from the ear-heads and also obtained free from dust. Weigh the clean produce carefully, weighing of produce should be done up to 5 grams. This result of weight is called green weight of the CCE. This green weight should be recorded in note book as well as in prescribed CCE Reporting Format**.** Collect the information from the cultivators and to be recorded in the prescribed format and submit the same in variably on the same day.

[Note: Prepare 5 (five) copies of Filled in CCE Format and submit copy of the same, invariably on the same day to 1) The Director of Agriculture 2) Deputy Director of Agriculture 3) Supdt. of Agriculture 4) Agri. Sector Officer and 5) Retain One copy with him / her as office copy].

b) Potato:

Harvest all the potato falling inside the cut area demarcated by the string on the same day and take the weight of the produce. The weight of the produce should be recorded in notebook & Prescribed CCE Format.

c) **Rape & Mustard:**

Harvest the plants, which are within the boundary of the Plot. If more than half portion of any plant is inside the plot include it in the plot for harvest. It is advisable not to allow the surrounding crop of the field to be harvested until the crops within the plot is harvested and removed to the threshing ground. Collect all the harvested produce without leaving any plants in the field, and spread it on a piece of gunny or bamboo mattress for a few hours and than the produce should be bagged in a cloth bag or gunny bag for a period of seven days. The concerned cultivator may be requested to expose the bag in the sun every day in unopened condition until the produce is threshed. After seven days the produce should be threshed. Take care to see that there is no loss of the produce at the various stages, viz. harvesting, separating, carrying from the field, threshing, winnowing, cleaning and weighing. Particular care should be taken to see that every plant is fully threshed and free from dust. Weigh the clean produce carefully and record the result obtained on the day of threshing in Note Book & Prescribed CCE Format.

d) **Wheat:**

Harvest the crop, which is only within boundary of the plot. If a bunch of plants lie on the boundary include it, if more than half of it is inside the plot. Otherwise reject

it. It is advisable not to allow the surrounding crop of the field to be harvested until the crop within the plot is harvested and removed to the threshing ground. Complete the harvesting and other operations on the same day but, where the produce is moist and it is difficult to separate the grain from ear-heads, it should be allowed to dry up for a day or two under the care of the staff conducting the survey. Results should be recorded in notebook.

8. **Dry Weight (Paddy)**

A quantity of 1 kg (exact weight) of Paddy just after harvesting of experiment plot is to be collected by the Investigator/Technical staff entrusted with the work & to be kept in a clean cloth/ gunny bag with proper care and to be dried for at least 7 (days) keeping the bag tight in sunlight's & then dry weight of the produce to be taken. Dry weight, to be communicated to the Directorate office later on with in 3 weeks of the date of green weight recorded, as per following format.

Name of the District	Name of the Agri.sub	Name of the Block	Name of the Circle/Villages where CCE conducted	Name of the Cultivator	Date of CCE	Dry weight of the 1 kg sample

9. Organization of crop cut:

As per existing procedure, the cuts on different crops in each Block will be taken by the following personnel:

Name of the Crop	Stratum	Sector Officer	VLW/ Investigator/Asstt. Investigator	Total
Boro Paddy	Block	5 nos.	25 nos.	30 nos.
Potato	Block	5 nos.	15 nos.	20 nos.
Wheat	Agri.Sub	5 nos.	15 nos.	20 nos.
Rape/Mustard	Agri.Sub	5 nos.	15 nos.	20 nos.

In addition to the above, crop cutting experiment shall be conducted in presence of the officers as desired by the authority as earmarked as follow:

Sl.	Officers	% of crop cutting experiment
1.	Dy. Director of Agriculture or his representative	10 %
2.	Superintendent of Agriculture	10%
3.	Assistant Director/A.O posted in the SA office	30%
4.	Agri. Sector Officer	50%

VLW/Investigator/Technical staff entrusted with the statistical work will remain present in all the cases for smooth running of crop cutting experiment & one labour may be engaged and payment of the labour wages as @ minimum wages prescribed by the government in time to time be paid by the respective Superintend of Agriculture for which budgetary provision has been kept.

Annexure-I

Random Number Table

	1-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 1	6	9	2	1	3	4	9	7	1	6
Row 2	7	6	6	8	2	6	4	4	1	4
Row 3	4	2	9	4	5	1	4	2	9	2
Row 4	6	2	2	9	2	2	3	8	2	5
Row 5	6	8	4	1	9	2	9	3	9	3
Row 6	1	1	2	6	1	6	6	8	9	7
Row 7	9	4	2	5	2	8	5	1	8	3
Row 8	4	7	7	4	1	1	1	6	3	4
Row 9	2	3	1	6	7	9	4	4	9	3
Row 10	1	6	8	7	3	6	8	2	8	3
Row 11	6	9	5	2	9	7	2	2	4	9
Row 12	6	7	6	9	9	6	1	1	2	8
Row 13	8	8	4	7	1	4	8	7	5	8
Row 14	9	1	2	3	8	9	1	8	4	1
Row 15	2	9	1	9	7	6	8	5	8	7
Row 16	6	4	1	8	8	5	8	5	4	3
Row 17	6	8	3	2	1	6	5	6	8	9
Row 18	3	2	2	1	8	3	3	6	5	9
Row 19	4	3	2	3	3	2	1	1	8	4
Row 20	6	8	1	7	3	7	8	7	3	9
Row 21	3	4	1	8	4	1	8	3	3	2
Row 22	2	3	7	4	3	6	3	4	2	2
Row 23	4	3	5	9	2	5	3	6	2	2
Row 24	6	2	8	4	3	2	1	5	3	7
Row 25	2	5	6	2	5	3	7	5	7	7
Row 26	3	8	1	7	6	5	5	1	9	5
Row 27	9	5	6	8	8	5	2	3	1	6
Row 28	2	9	1	7	2	5	4	1	2	9
Row 29	2	8	4	4	7	5	1	6	9	5
Row 30	5	1	2	7	1	2	6	1	4	1
Row 31	6	1	2	5	7	7	4	6	1	3
Row 32	2	7	2	3	2	7	2	8	2	8
Row 33	3	6	8	9	3	1	2	5	8	6
Row 34	1	8	1	7	2	3	8	6	9	5
Row 35	9	3	2	3	3	3	7	6	4	3
Row 36	7	2	5	3	3	5	3	8	7	9
Row 37	2	9	9	7	8	4	6	8	1	1
Row 38	8	1	1	4	7	2	6	5	2	4
Row 39	6	1	9	2	7	3	6	5	4	9
Row 40	2	9	1	7	2	5	4	1	2	9

Row 41	2	8	4	4	7	5	1	6	9	5
Row 42	5	1	2	7	1	2	6	1	4	1

ANNEXURE-I

	2-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 1	11	59	95	81	29	35	85	72	85	67
Row 2	85	97	19	26	69	47	29	44	98	85
Row 3	35	62	35	37	90	28	56	57	61	99
Row 4	61	27	50	89	22	15	36	68	92	74
Row 5	55	86	13	54	20	99	28	12	63	19
Row 6	44	44	32	67	15	86	34	72	32	48
Row 7	59	58	52	19	33	18	88	91	53	81
Row 8	38	64	95	78	15	28	28	21	54	21
Row 9	97	74	31	70	10	71	90	57	63	20
Row 10	10	72	42	69	47	64	30	55	78	25
Row 11	71	92	29	49	96	27	98	25	22	85
Row 12	35	88	62	42	93	62	16	10	20	62
Row 13	80	57	57	12	71	27	78	19	75	20
Row 14	32	51	42	31	84	73	70	72	48	77
Row 15	61	16	76	70	10	36	63	49	17	14
Row 16	60	34	58	94	31	24	76	19	28	35
Row 17	70	59	26	55	44	11	79	56	13	90
Row 18	27	32	63	37	92	10	62	77	37	93
Row 19	83	30	53	20	56	96	87	10	30	96
Row 20	68	94	83	21	55	96	41	82	38	69
Row 21	98	30	45	98	61	39	78	79	59	12
Row 22	32	25	37	60	14	75	37	94	77	66
Row 23	52	69	53	34	88	92	93	54	15	31
Row 24	63	90	60	91	82	72	26	24	30	99
Row 25	83	10	56	63	42	24	30	16	43	94
Row 26	91	75	14	68	51	68	13	12	62	49
Row 27	74	87	56	58	87	44	15	36	72	97
Row 28	45	37	35	35	87	63	89	43	59	54
Row 29	68	68	55	73	52	44	36	47	49	69
Row 30	92	89	22	62	67	34	37	70	23	34
Row 31	88	68	46	79	84	23	78	31	42	74
Row 32	51	41	88	93	76	43	92	95	95	65
Row 33	97	44	72	41	13	64	99	90	58	50
Row 34	70	70	53	22	51	99	76	76	14	15
Row 35	76	26	69	97	89	17	15	17	82	37
Row 36	24	86	51	65	28	26	61	75	71	75
Row 37	30	99	20	13	30	68	30	37	89	72

Row 38	38	76	92	93	48	69	65	73	38	41
Row 39	81	41	87	44	53	12	94	31	25	71
Row 40	93	37	18	64	65	97	70	30	81	81
Row 41	24	93	47	61	98	36	12	66	32	41
Row 42	19	50	30	55	60	90	15	98	23	63
Row 43	84	95	56	59	23	90	80	90	49	42
Row 44	58	45	20	99	68	45	18	56	70	89
Row 45	83	21	76	14	93	62	55	93	20	28
Row 46	57	44	39	52	72	42	24	69	21	57
Row 47	85	12	61	74	30	33	56	95	19	21
Row 48	57	40	65	31	18	94	45	74	65	76
Row 49	17	37	72	22	72	39	79	71	85	12
Row 50	63	62	41	34	64	34	66	35	83	97

	3-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 1	136	625	820	646	305	355	682	370	731	310
Row 2	441	732	719	224	572	138	289	704	477	825
Row 3	575	327	357	506	461	408	700	630	534	948
Row 4	324	667	942	569	751	829	564	910	368	141
Row 5	714	986	436	910	247	931	859	545	202	842
Row 6	910	925	985	907	626	539	636	887	796	337
Row 7	316	967	470	302	929	921	359	337	293	966
Row 8	240	144	107	908	643	638	195	338	992	121
Row 9	498	969	317	102	430	583	591	896	568	657
Row 10	471	513	226	975	928	122	969	157	370	983
Row 11	394	659	169	152	148	237	377	228	955	286
Row 12	554	374	540	859	931	492	456	575	819	220
Row 13	846	700	252	155	106	154	405	165	386	242
Row 14	827	150	202	939	916	587	319	992	330	813
Row 15	351	157	621	343	568	918	833	903	139	685
Row 16	893	742	612	486	605	994	553	344	762	136
Row 17	705	535	773	490	463	150	257	607	464	761
Row 18	622	905	723	620	856	337	673	833	849	104
Row 19	164	661	560	171	132	849	150	897	553	472
Row 20	309	145	776	808	782	234	667	854	778	933
Row 21	317	597	513	754	497	344	504	166	112	540
Row 22	682	981	231	541	173	646	951	434	313	657
Row 23	736	719	416	680	210	313	427	788	699	444
Row 24	549	626	319	770	837	802	698	335	562	989
Row 25	726	325	852	348	717	757	626	763	969	743
Row 26	438	649	270	567	181	639	478	617	742	649
Row 27	335	996	675	973	343	848	167	204	506	946
Row 28	827	657	395	902	434	998	403	756	569	592
Row 29	115	336	581	868	389	799	314	373	828	826
Row 30	649	487	837	575	702	431	912	203	817	593
Row 31	447	889	192	808	924	349	362	419	354	903
Row 32	525	168	676	187	593	483	702	181	729	432
Row 33	535	841	573	575	782	428	265	117	306	912

	3-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 34	400	884	345	703	244	339	956	239	388	899
Row 35	857	536	579	370	610	598	583	741	254	693
Row 36	334	100	902	290	175	676	469	870	361	512
Row 37	469	583	881	364	351	692	364	225	350	790
Row 38	794	777	450	320	915	490	210	857	546	363
Row 39	885	471	676	228	777	337	556	936	166	128
Row 40	422	204	669	962	868	654	849	754	796	534
Row 41	901	536	196	712	968	281	303	846	831	195
Row 42	689	206	527	121	298	320	286	335	914	604
Row 43	977	883	661	873	186	467	671	959	634	429
Row 44	225	792	299	249	774	342	607	690	935	108
Row 45	441	296	913	791	147	459	492	195	403	151
Row 46	505	896	884	227	650	168	873	457	459	718
Row 47	855	852	946	723	662	541	248	801	945	314
Row 48	286	396	733	170	224	209	141	398	651	723
Row 49	827	432	496	220	731	606	807	352	565	473
Row 50	487	173	523	703	858	851	910	120	632	224

	4-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 1	3835	4337	7732	2419	3074	9497	6546	2641	4249	1488
ow 2	1841	9300	4931	5108	1336	2977	7067	4730	4388	9214
Row 3	6226	5534	6595	8618	3093	2337	5994	8650	6025	2902
Row 4	5805	1540	2251	4671	1017	3168	5520	2574	7186	7936
Row 5	1118	5059	5654	9474	6060	6728	3652	6570	4191	7664
Row 6	3345	4663	1514	1837	7570	1555	6828	8623	5547	3171
Row 7	2481	2844	2736	7806	9275	1596	6761	7385	7944	7277
Row 8	8485	3420	4925	3411	2524	3139	7636	2707	8067	8392
Row 9	5128	1087	7988	2011	4934	4742	2096	2238	2428	4764
Row 10	3846	7746	7616	8179	7778	5004	9010	9401	4722	2323
Row 11	9367	4715	5425	9036	6706	1834	9517	5599	8637	2343
Row 12	2336	2452	2138	6301	2743	9390	6907	7614	9502	4138
Row 13	8280	8873	2847	3152	3929	9759	1220	7036	1323	6910
Row 14	3965	9450	8038	3912	6144	7868	7738	4914	7289	8583
Row 15	4006	9655	2555	3036	1685	8236	2655	6121	2128	8760
Row 16	8185	3758	6742	1192	2691	8241	5053	7970	8891	1526
Row 17	4282	7038	8525	5382	1011	8137	2245	8887	2814	1889
Row 18	2278	9234	8936	2924	4659	4462	1366	8808	2471	5125
Row 19	1932	9575	2639	2529	2825	8584	9363	3684	1260	7876
Row 20	5492	6341	9696	3284	3889	5657	3393	9512	8667	8798
Row 21	1970	8878	3741	5263	4156	8187	7701	3561	4620	6850
Row 22	5387	3779	4846	7649	6613	2067	6069	9406	7453	2259
Row 23	9645	7962	8691	7924	8220	7995	4138	5605	6139	5289
Row 24	5288	4553	6827	3235	6078	7865	7339	6200	3684	2030
Row 25	3151	2813	8266	3653	8361	7464	2095	4358	2282	4689
Row 26	8749	1149	7831	2316	3758	2050	4702	7230	5888	3719
Row 27	9754	6820	8446	7959	6997	3845	9880	1861	4997	8775
Row 28	8088	1116	1529	1730	5062	5889	3067	3561	7966	7796

	4-Digit Random Number Table									
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Row 29	2120	8344	4504	3511	2892	4663	1646	2454	6267	7575
Row 30	7328	2333	4535	7890	2440	6290	1387	1368	1413	4712
Row 31	8895	3873	9323	7069	6283	5379	2389	6365	6810	4560
Row 32	7523	2891	7814	8640	5414	3814	3503	6563	8629	9071
Row 33	6123	6427	8905	4044	8774	1357	4177	1949	8761	8426
Row 34	8247	4655	4179	9566	3791	7250	7979	3863	7912	5530
Row 35	7425	7929	3651	3605	1728	9005	1867	2255	4666	2713
Row 36	3327	6852	8498	6669	6026	6229	3373	5904	5674	5703
Row 37	4524	9035	1150	7254	7821	7699	6296	1412	4256	1518
Row 38	7066	8927	4096	5487	8032	4242	7132	6704	8092	5765
Row 39	4881	2863	6667	3818	6798	3712	7912	2556	3057	1425
Row 40	9711	1353	5557	2900	4471	8066	3238	5035	5613	7780
Row 41	3334	5305	6594	6306	5466	5126	9906	1557	4119	4561
Row 42	3175	6329	4310	2824	5749	9544	8450	3791	4448	3916
Row 43	8587	3452	4447	2625	5225	7800	1187	6352	7410	7730
Row 44	8134	6956	8473	4783	3553	2499	3411	8516	8965	7841
Row 45	8696	4186	9198	2865	9575	9658	8195	1414	3712	6145
Row 46	4616	6820	4497	3075	4909	2634	8289	5659	8838	6178
Row 47	7332	6356	9385	8787	1587	7387	5446	2162	3568	7823
Row 48	4473	4285	6586	6403	5325	2552	6603	4650	3310	5832
Row 49	4325	7141	1889	5453	7708	6243	2986	8432	2677	4510
Row 50	1075	2723	1865	3889	9601	4210	8452	3569	3622	4368

ANNEXURE -II

FORMAT FOR REPORTING CROP CUTTING EXPERIMENT RESULTS

Sl No.	Particulars	
1	Name of the District	
2	Name of Agri. Sub-division	
3	Name of the Block	
4	Name of Agri. Sector	
5	Name of the VLW Circle/ Village	
6	Name of the Gram Panchayet	
7	Name of the Cultivator where actual CCE conducted	
8	Operational size of the holding of Farmer	
9	Name of the crop	
10 (a)	System of Cultivation	Conventional/ SRI
10(b)	Type of the Variety of crop	Local/HYV/HYBRID
11	Name of Variety	
12	Sources of Seed	Departmental source/ Private Source/ Own Source
13	Seed used per Kani (0.16 ha)	
14	Whether Manure/ FYM used in the plot	Yes/ No
15	If yes, quantity of manure/FYM used (in per Kani)	
16	Whether Chemical Fertilizer used in the plot	Yes/ No
17	If yes, quantity of Chemical fertilizer used(in per Kani)	
18	Time of sowing or Transplanting	(Early / Normal/ Late).
19	Date of harvesting	
20	Total area under crop (kani) in respect of cultivator for which CCE's is under taken	
21	Length of the field (in footsteps)	

22	Breadth of the field (in footsteps)	
23	Pair of random number selected	
24	Green Weight of the Produce obtained in CCE's in Kgs. Up to 5 gm	
25	Moisture Percentage in the produce obtained in CCE's	
26	Date of taking Dry Weight of the Produce obtained in CCE's	
27	Dry Weight of the Produce obtained in CCE's (in Kgs. Upto 5 gm)	
28	Normal Average yield in (Kgs or Qtls. / Kani) where CCE's undertaken (as per farmer experience)	
29	Production obtained through CCE's in respect of Normal average yield is	Normal/Good/Bad
30	Remarks about Production observed	
31	Whether the selected field was irrigated or un-irrigated	
32	If irrigated the source of irrigation	
33	Land type where CCE is undertaken	Upland/ Medium Land/ Low Land
34	Weather condition during Crop season	Normal / Drought/flood
35	Extent of damage by pests or any disease	

Signature of Official with seal taking the crop cut impression of the cultivator

Signature or thumb

Counter Signature of the Agri. Sector Officer with seal

Remarks by Superintendent of Agriculture:

Report of Supervisory officer
Name of Supervisory Officer: Remarks of the Supervisory Officer about the yield obtained in CCE's:

Prepare 5 (five) copies of CCE results in prescribed format and send one copy just on the next day of the crop cut to the Director of Agriculture, Krishi Bhawan Agartala., 2nd copy to the D.D.A. of the Dist., 3rd copy to the Superintend of Agriculture and 4th copy to the Agri Sector Officer and 5 th copy to be retained as office copy.