



R.H.W.E 2016-17
INDUSTRIAL TRAINING
(UTTARAKHAND SEED AND TARAI
DEVELOPMENT
CORPORATION, HALDI, PANTNAGAR)

SUBMITTED BY:

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SUBMITTED TO:

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Objectives of Industrial Training:

- The main objective of Industrial Training is to expose the students to actual working environment and enhance their knowledge and skill from what they have learned in the college.
- Another purpose of this program is to instill the good qualities of integrity, responsibility and self confidence.
- It is also to help the students about the safety practices and regulations inside the industry.
- To instill the spirit of teamwork and good relationship between students and employees.

INTRODUCTION

- Established on June 29th, 1969 by GB Pant University of Agriculture and Technology, Pantnagar, Government of India and Farmers of tarai area.
- Restructured as U.P. Seeds and Tarai Development Corporation Ltd. in 1978.
- As a result of division of state of Uttar Pradesh this was named as Uttaranchal Seeds and Tarai Development Corporation Ltd. (UAS & TDC) on 27/12/2003.
- Now owing to change of state name, the Corporation's name also stands changed as Uttarakhand Seeds and Tarai Development Corporation Ltd. (UKS & TDC) since 23/09/2009
- Operating across the state-20,000 hectares seed production area.

OBJECTIVES OF UKS&TDC

- Make available quality seed, timely and in adequate quantity at reasonable and economical price
- Maintain organisation, system and procedure to ensure quality of seeds grown, procured, processed and packed, stored and marketed.
- Aim at generating internal resources for facilitating steady growth and development in servicing the farmers.

- To increase productivity
- To increase economic status of the farmers
- Self sustaining growth strategy
- It aims at achieving a growth of 15% per annum on an average.
- There is acute shortage of certified seed of minor crops like hill crops(mandua,sawan,gahat,etc).Corporation is taking up these crops in its seed production channel.

FUNCTIONS

- Procurement of breeder seed indent from different ICAR Institutes/Agriculture Universities after receiving allotment from Govt. of India.
- Multiplication of Foundation seed from allotted Breeder seed at University farm and progressive seed growers.
- Arrangement for certified seed production at seed grower field after providing them foundation seeds.
- Inspection of seed production fields to ensure genetic purity and disease free seed.

- Installation, management and operation of seed processing plants. Proper storage of unprocessed as well as processed seeds.
- Providing gunny bags free of cost to its seed growers, to ensure timely supply of pure seed.
- Providing all other facilities to the seed growers which are required from time to time for quality seed production.

CLASSIFICATION OF SEED

- **SEED** is a mature plant ovule containing an embryo.
- **CLASSIFICATION:**
 1. **Nucleus Seed:** It is the initial amount of pure seed of an improved variety available with plant breeder who has involved it and used for Breeder seed production.
 2. **Breeder Seed:** carries golden colour tag. Progeny of nucleus seed and used for Foundation Seed multiplication.

3. Foundation Seed: Carries White colour tag. It is not as pure as nucleus and breeder's seed. Used for certified seed production.

4. Certified Seed: Carries Azure Blue Tag. It is the progeny of foundation seed and generally given to the farmers.



Tag size:15cm x 7.5cm



Tag size:15cm x 7.5cm

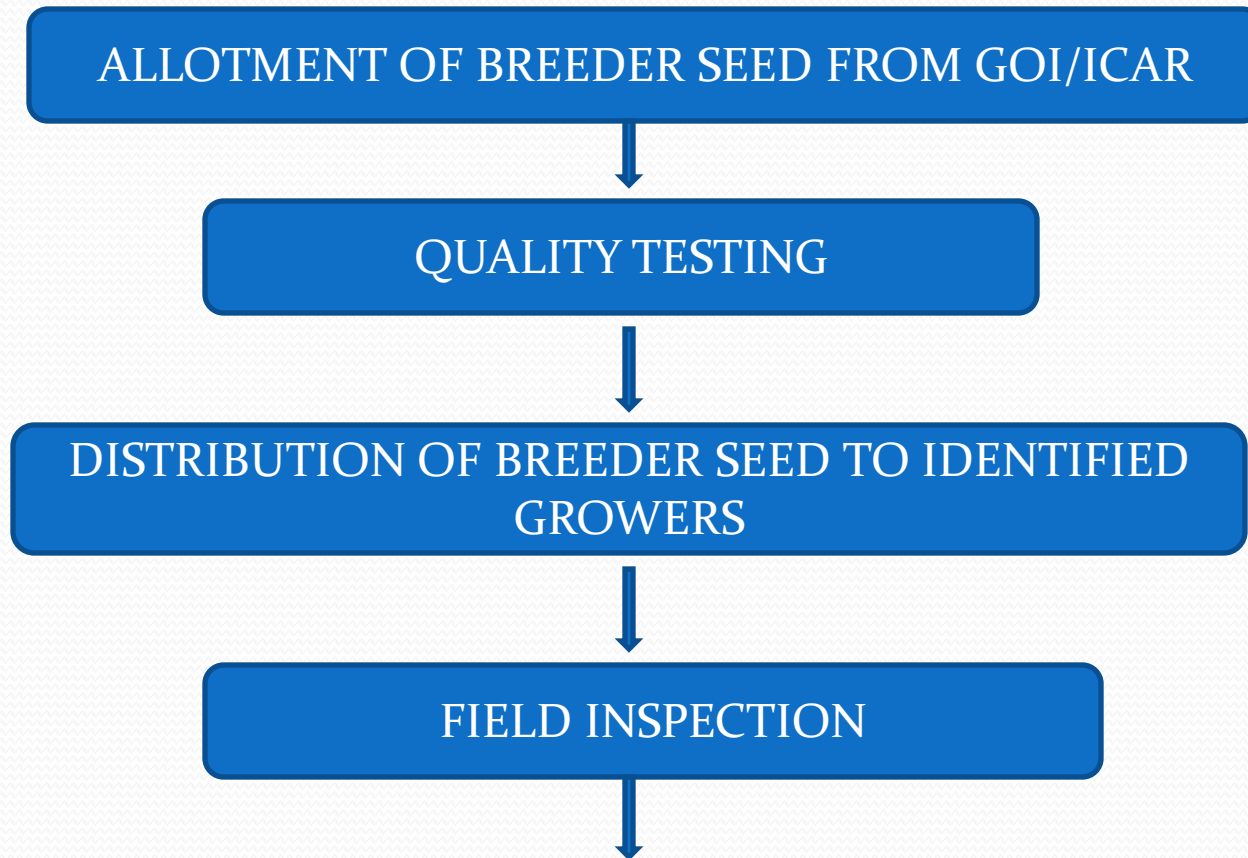
❖ Tag include information like ; quantity of seed , state code , plant code , etc.

For example: State code of uttarakhand is 33,U.P=42

Plant code of UKS&TDC is 31

STEPS INVOLVED IN SEED PRODUCTION

- **Breeder seed to Foundation seed:**



ROUING



FIELD INSPECTION BY CERTIFICATION AGENCY



FIELD SAMPLING AFTER HARVEST OF SEED



INTAKE OF SEED



SAMPLING OF RAW SEED FOR QUALITY ANALYSIS



PROCESSING

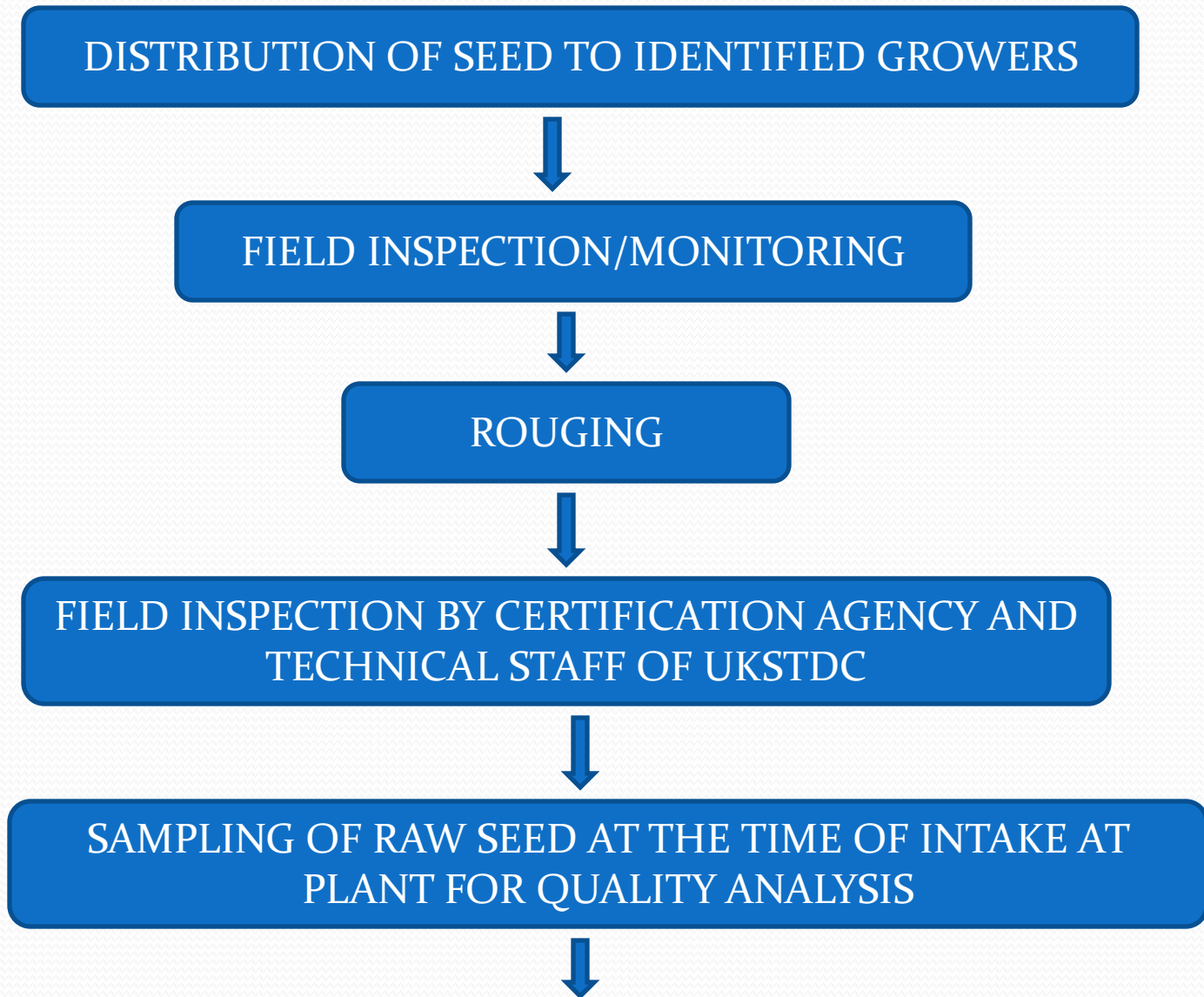


SAMPLING AND TESTING BY SEED TESTING LAB



PACKING AND STORAGE

- **Foundation seed to Certified seed:**



PROCESSING OF RAW SEED UNDER THE SUPERVISION OF
TECHNICAL STAFF OF UKSTDC

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graph TD; A[PROCESSING OF RAW SEED UNDER THE SUPERVISION OF TECHNICAL STAFF OF UKSTDC] --> B[SAMPLING AND TESTING DONE BY SEED TESTING LAB]; B --> C[PACKING AND STORAGE];
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SAMPLING AND TESTING DONE BY SEED
TESTING LAB

PACKING AND STORAGE

STEPS IN SEED PRODUCTION

1. Arrangement of seed production programme by regional, project or branch office.
2. Farmer's registration with Certification agency.
3. Crop production in farmer's field.
4. Timely inspections by TDC and State seed Certification agency.
5. Sample testing(field sample) at laboratory,..if found satisfactory,intake letter is send to farmer.

6. Farmer brings produce lot to processing plant.
7. Sample again tested for quality(before processing sample).
8. If found satisfactory ,processing is done.
9. After processing ,again sample is tested in laboratory.
10. Finally the produce has turned into quality seeds and is send across the nation.



“पंतनगर बीज”

केवल सील बन्द थैले में खरीदें

उत्तराखण्ड सीड्स एण्ड तराई डेवलपमेन्ट कारपोरेशन लिमिटेड

पन्तनगर, पोस्ट-हल्दी, ऊधु सिंह नगर (उत्तराखण्ड)

प्रमाणित बीज (Certified Seeds)

1. लेबल संख्या (Label)
2. फसल (Crop) गेहूँ (Wheat)
3. प्रजाति (Variety) HD-2894
4. लॉट संख्या (Lot No.) APR-16-33-31-17 190534
5. परीक्षण की तिथि (Date, Month & Year of Test)
6. मान्यता की अवधि (Valid upto) 9 months
7. जमाव न्यूनतम (Germination Minimum) 85%
8. भौतिक शुद्धता (Physical Purity) 98%
9. अनुवांशिक शुद्धता (Genetic Purity) 98%
10. शुद्ध वजन (12% नमी पर) Net Weight (At 12% Moisture) 40 Kg
11. रसायन जिससे बीज उपचारित किया गया है (Treated with Thiram)

सावधान विष मिश्रित
Treated with Poison
Do not use for Food
Feed oil & Pulses

हस्ताक्षर प्रभारी अधिकारी
Signature of Plant Incharge

- ❑ **Field inspections** are done for checking the purity of crop.
 - a) At vegetative stage.
 - b) At Flowering Stage.
 - c) At Maturity Stage.(Depending on field standards of crop)

- ❑ The crop's sample are tested in laboratory for:-
 - a) Viability test .
 - b) Moisture test.
 - c) Germination test.
 - d) Purity test.

- ❑ **Types of sample.**
 - 1) Field sample.
 - 2) Before processing (BP) sample (at the time of intake of seed at plant).
 - 3) After processing (AP) Sample.



VIABILITY TEST

SEED SOAKING IN
WATER FOR 24 HOURS



CUTTING OF PRESOAKED
SEED IN TWO HALVES
FROM EMBRYO SIDE



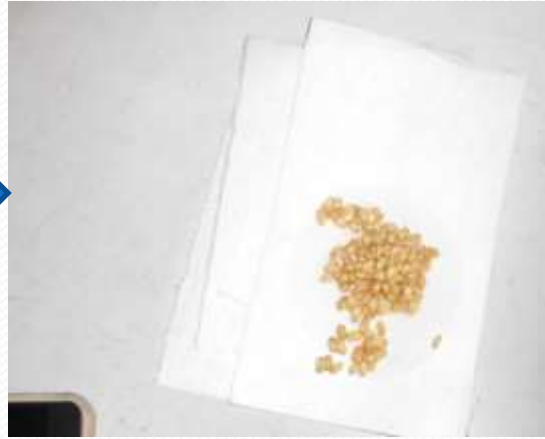
100 CUT SEED DIPPED IN
TETRAZOLIUM (2gm/l)
SOLUTION FOR TWO
HOURS



RED COLOUR ON EMBRYO
SIDE INDICATE VIABILITY



SEED OBSERVATION



MOISTURE TEST



Moisture meter



It is used to check the moisture % in seed

Measures for checking moisture %

CROP	VOLUME	THICKNESS	CROP CODE
PEA	C	375	25
PALAK	A	470	79
FENUGREEK	A	490	88
CORIANDER	C	438	55
RADISH	C	360	78
CAULIFLOWER AND CABBAGE	C	375	90
BRINJAL	A	470	43
CARROT	C	490	14
OKRA	C	360	42
COWPEA	A	438	20
BITTERGOURD	C	390	94
MUSKMELON	B	388	54
FRENCH BEAN	B	320	85



GERMINATION TEST





Normal seeds



Abnormal seeds



PURITY TEST

- A beaker of 200ml was taken which can contain around 2000 seeds.
- Dead seeds, sprouted seeds, diseased seeds and inert matter was counted.
- On the basis of above data ,physical purity is counted.

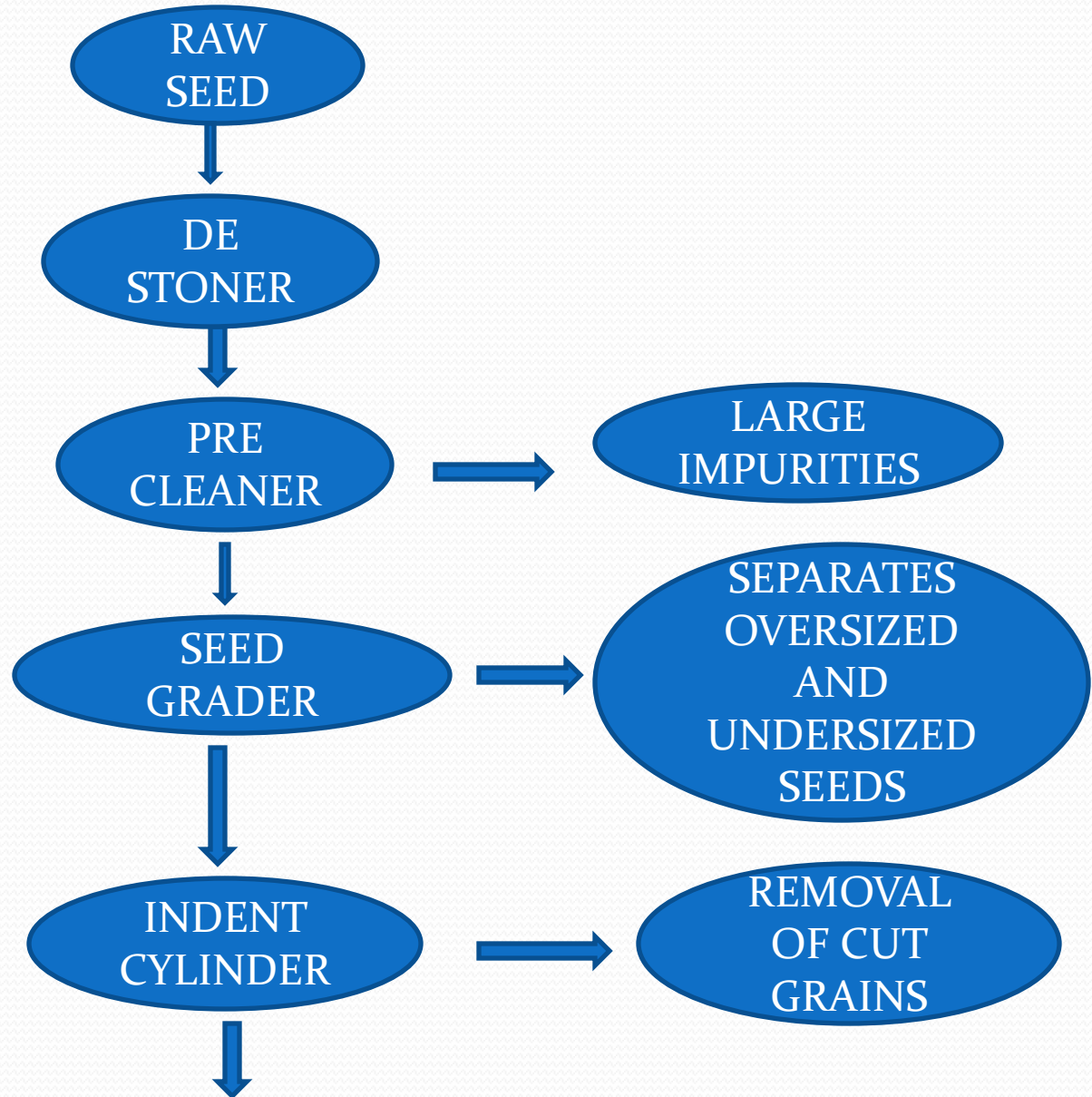
Physical purity test

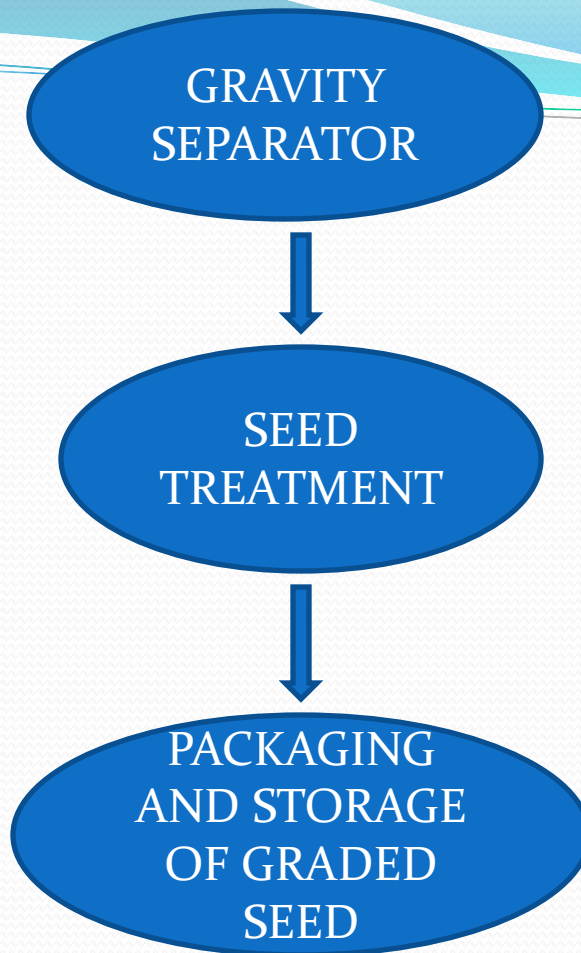




PROCESSING

STEPS INVOLVED IN SEED PROCESSING





- After seed processing, the viability period of seed remains for 9 months.
- After 9 months, revalidation is done for checking the seed viability.
- If the seed is found satisfactory according to the standards, the viability period increases for the next 6 months.

□ *INTAKE OF SEED*



❑ *DE-STONER*



It clean big impurities b
means of long-gap
screen,clean small
impurities by means of
circular-holes screen,and
clean simultaneous
stones by a convex
screen.

❑ **PRE CLEANER**

- Pre cleaner remove large sized particles, particles that are lighter in weight and smaller in size than the crop seed.



☐ SEED GRADER



- It separates the oversized and undersized seeds .
- It also separates or remove weed seeds and other crop seeds.



□ *INDENT CYLINDER:*

It remove the cut grains.

□ *GRAVITY SEPARATOR*



- It separates seeds according to their weight.
- The seeds processed by the gravity separator is separated into layers of different specific weight according to the “fluid bed” principle.
- The working principle is to lift the material over an inclined vibrating screen covered deck. This results in heavier particles travel to the higher level while the lighter particles travel to the lower level of the deck.

□ *SEED TREATER:*

Seeds are treated with thiram to prevent fungal diseases.

□ *PACKAGING MACHINE:*

After processing, seeds are packed in bags.

Other Machines:

SEED DRIER:

Seed drier is used to remove moisture(if present) from seed before packaging.



DIFFERENT SEED PACKAGING MACHINES:



Different size of seed packets are made by these machines.

Visit to Haldi Plant



MOBILE PROCESSING PLANT



This mobile plant is used for processing seeds in rural and hilly areas where the facilities for seed processing are not available.



CLASSES AND DEMONSTRATION OF MACHINES-by *Dr.B.B.Mishra*







THANK YOU

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- www.k8449.weebly.com
 - www.anilrana13014.weebly.com