PREPARATION OF REAGENTS FOR VARIOUS EXPERIMENTS ARE GIVEN BELOW-

1. Preparation of chemicals for the estimation of Chlorophyll:
   a) 80% Acetone (C$_2$H$_5$OH)
      
      C$_2$H$_5$OH 80 ml
      DDW 20 ml

2. Preparation of chemicals for protein estimation:
   a) 50% Hydrochloric acid
      
      Conc. HCL 10 ml
      DDW 10 ml
   b) 6 N Sodium hydroxide (NaOH)
      
      NaOH 24 g
      DDW 100 ml
   c) 80% Ethanol (EtOH)
      
      EtOH 80 ml
      DDW 20 ml
   d) 5% Perchloric acid (PCA)
      
      PCA 13 ml
      DDW 270 ml
   e) 1 N NaOH
      
      NaOH 4 g
      DDW 100 ml
f) **Preparation of protein binding dye**

Coomassie Brilliant Blue G-250 10 mg
95% EtOH 5 ml
85% (w/v) Phosphoric acid 10 ml
DDW 100 ml

Final concentration in the reagent were 0.01% (w/v) Coomassie Brilliant Blue G-250, 4.7% (w/v) ethanol and 85% (w/v) phosphoric acid

3. **Preparation of chemicals for the estimation of lipid peroxidation:**

a) **50 mM phosphate buffer (pH 7.0)**

100 mM KH$_2$PO$_4$ 3.89 ml
100 mM Na$_2$HPO$_4$ 6.11 ml

b) **TBA-TCA solution (0.5% thiobarbituric acid (TBA) in 20% TCA)**

TBA 0.5 g
0.1 N HCL 2 ml
TCA 20 ml
DDW 78 ml

4. **Preparation of chemicals for estimating SOD activity:**

a) **300 mM Na$_2$CO$_3$ (Mol. Wt. 106)**

Na$_2$CO$_3$ 0.795 mg
DDW 25 ml

b) **1000 µM NBT**

NBT 8.18 mg
DDW 10 ml

c) **378 µM NBT**
1000 µM NBT 9.45 ml
DDW 25 ml
d) **1000 µM Riboflavin (Mol. Wt. 376.37)**
Riboflavin 7.52 mg
DDW 20 ml
e) **100 µM Riboflavin**
1000 µM Riboflavin 0.5 ml
DDW 4.5 ml
f) **7.8 µM Riboflavin**
100 µM Riboflavin 1.56 ml
DDW 18.44 ml
g) **100 mM L- Methionine (Mol. Wt. 149.2)**
Methionine 373 mg
DDW 25 ml
h) **78 mM L- Methionine**
100 mM L- Methionine 19.5 ml
DDW 5.5 ml

5. **Preparation of chemicals for estimating GPOX activity:**
a) **Guaiacol 20 mM**
Guaiacol 0.22 ml
DDW 100 ml
b) **H₂O₂ 10 mM**
H₂O₂ 0.4 ml
DDW 9.6 ml

6. **Preparation of chemicals for estimating APX and CAT activity:**
a) **100 mM HEPES NaOH buffer of pH 7.6:**

2.383 g of HEPES buffer is dissolved in 100 ml DDW and adjust its pH to 7.6 with 0.1 N NaOH.

b) **50 mM HEPES buffer**

Take 50 ml from HEPES buffer and dilute to 50%.

c) **5 mM Ascorbate:**

1.761 mg Ascorbate is dissolved in 100 ml DDW.

d) **3 mM H$_2$O$_2$:**

Take 0.12 ml of H$_2$O$_2$ and raises its volume to 100 ml by adding DDW.

e) **100 mM H$_2$O$_2$**

1.124 pure H$_2$O$_2$ is added to 18.87641 ml 100 mM HEPES buffer.

7. **Preparation of chemicals for the estimation of proline:**

a) **3% Sulfosalicylic acid (SSA)**

| SSA | 3 gm |
| DDW | 100 ml |

b) **3% Glacial acetic acid (GAA)**

| GAA | 1.5 ml |
| DDW | 48.5 ml |

c) **M Ortho-phosphoric acid (OPA)**

| OPA | 6.9 ml |
| DDW | 13.1 ml |

d) **Acid ninhydrin**

| Ninhydrin | 0.625 gm |
| Pure GAA | 15 ml |
| 6 M OPA | 10 ml |
Appendix-II

RESEARCH PUBLICATIONS

Research Papers Published


- Savita and Somveer Jakhar (2017). Comparative effects of acetylsalicylic acid and sulfosalicylic acid on biochemical and some enzyme activities in salinity stressed chickpea (*Cicer arietinum* L.) plants. Indian Journal of Plant Physiology. (in communication)

Abstracts Published


- Savita and Somveer Jakhar. Effects of Seed Priming with Acetylsalicylic Acid on Seed Germination and Seedlings Growth of Chickpea (*Cicer arietinum* L.) Under Salt Stress Conditions in National Seminar on “New Vistas in Plant and Microbial
Papers Presented in International/National Conferences/Seminars


- Savita and Somveer Jakhar. Response of chickpea to pre-soaking and foliar application of sulfosalicylic acid under salinity stress in Swarna Jayanti National Conference on “Biodiversity and Sustainable Utilization of Plant Resources” Department of Botany (UGC and DHE) Kurukshetra University, Kurukshetra. February 17-18, 2017.

Presented a Research Paper (Oral Presentation) entitled “Response of chickpea to pre-soaking and foliar application of sulfosalicylic acid under salinity stress” in Swarna Jayanti National Conference on “Biodiversity and Sustainable Utilization of Plant Resources” Department of Botany (UGC and DHE) Kurukshetra University, Kurukshetra. February 17-18, 2017. The paper was adjudged as 1st position.

Conferences and Seminars Attended

- **National Seminar on “Technological Advances in Botanical Sciences”**
  Department of Botany (DGHE sponsored) KVADAV College for Women Karnal, Haryana. January 21, 2016.


Workshops Attended

- **Workshop on “Short Term Course on Recent Trends in Biotechnology”**. Organized by Department of Biotechnology, Murthal. March 14-18, 2016.