In Vitro Propagation of *Capsicum annum* L. (Chili Pepper): Effect of Seed Sterilizing Chemicals, Plant Parts, and Growth Hormones on the Rooting and Shooting Performance

Getachew Abebe Tsedale, Getachew Birhanu Abera, Weldesemayat Gorems, Stacy Denise Hammond Hammond

INTRODUCTION

❖**The Chili pepper** (*Capsicum annuum* L.):
- Food flavoring
- Medicinal property
- Vitamins (E, C, A and B)
- Several amino acids

❖ **It grows:**
-1400 up to 2100 m.a.s.l
- In well drained soil rich in organic matter
- Rain fall is 600–650 mm

❖ **In Ethiopia:**
- Produce cultural Spices
- Source of income

PROBLEM STATEMENT

- Lack of seedling formation and maturation
- Causing agents are (viral, fungal, or bacterial diseases)
•This results in:
- Chili pepper wilting and death at any stage
- Productivity declining at alarming rate

OBJECTIVES

▪**To evaluate**
• Sterilizing Chemicals
• Arial parts of seedling
• Growth hormones
- Interaction

MATERIALS AND METHOD

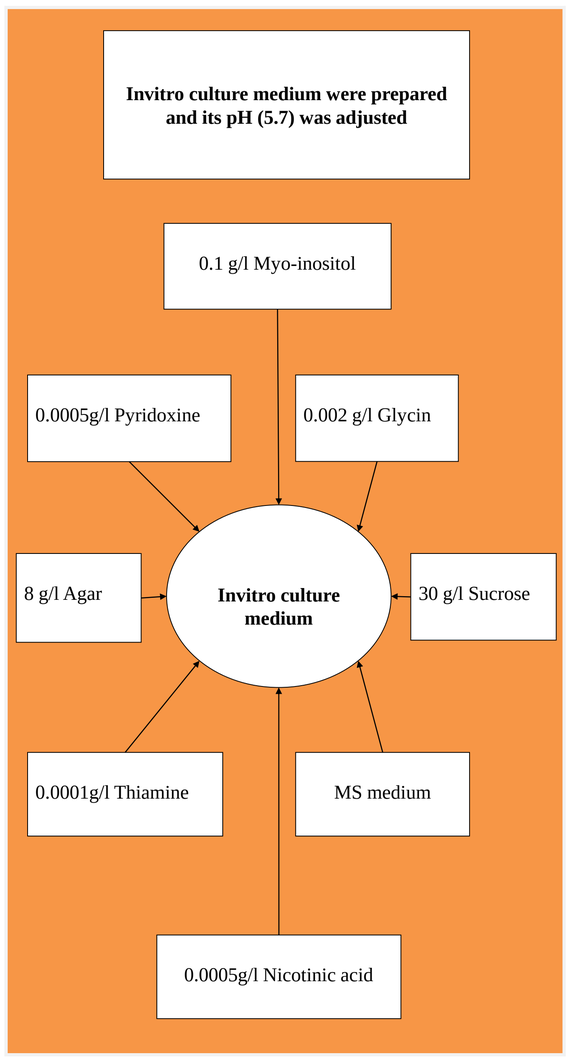
Experiment one (Pilot Study)
- Chili fruit were **collected** from South Ethiopia , Halaba District of farm site and sun dried

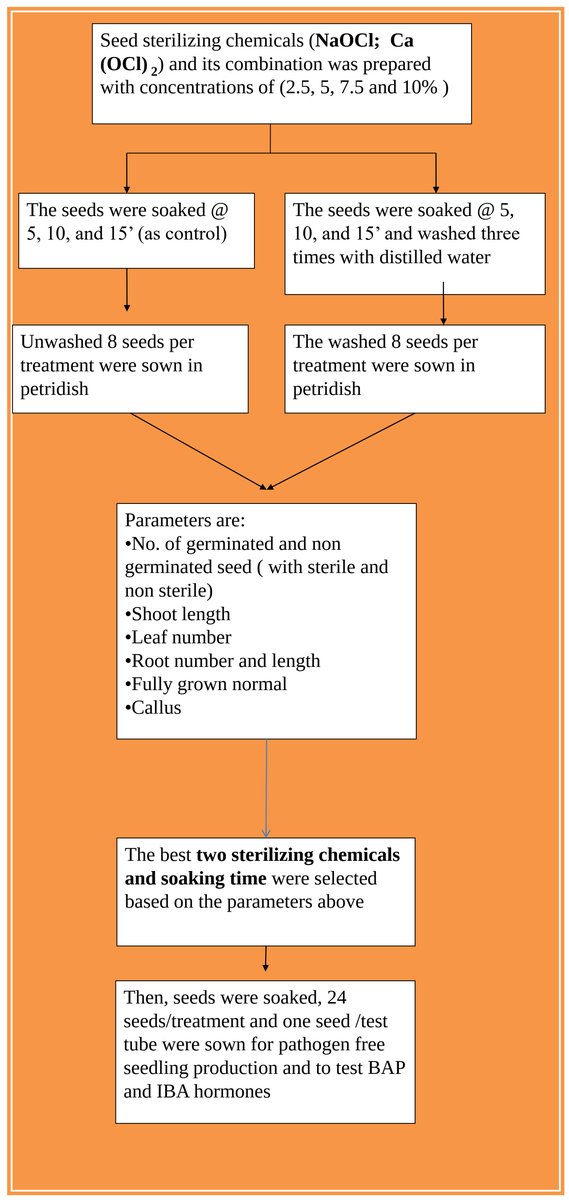
ONGOING ACTIVITIES

IBA; BAP; mg/l	*Capsicum annum* - Plant parts		
	Shoot Tip.	**Middle.**	**Base of the stem.**
0.5	Tip*0.5	Middle*0.5	Base*0.5
1	Tip*1	Middle*1	Base*1
1.5	Tip*1.5	Middle*1.5	Base *1.5
2	Tip*2	Middle*2	Base*2
3	Tip*3	Middle*3	Base*3
Control	Tip*C	Middle*C.	Base*C

Table 1: Plant growth hormone and parts of seedling treatment interaction

METHOD CHART

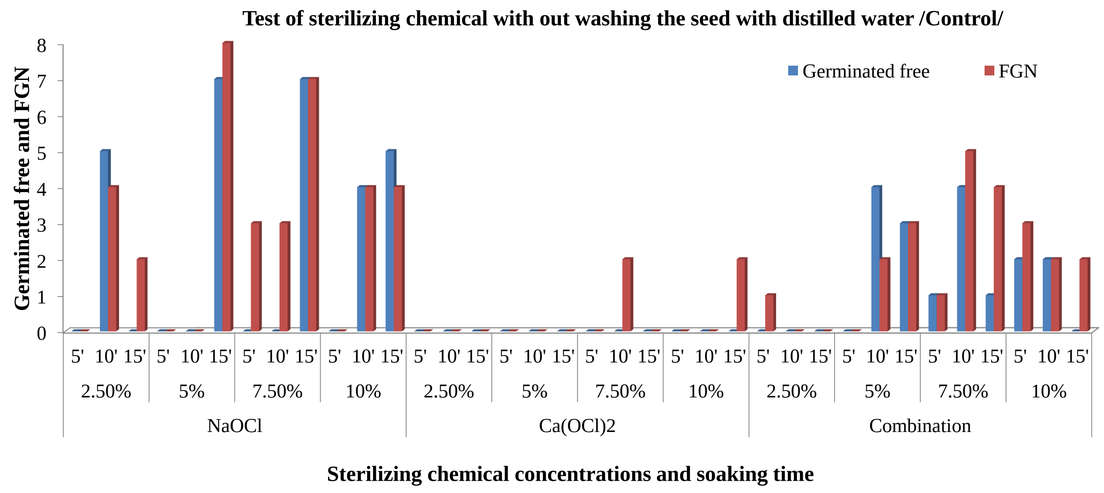


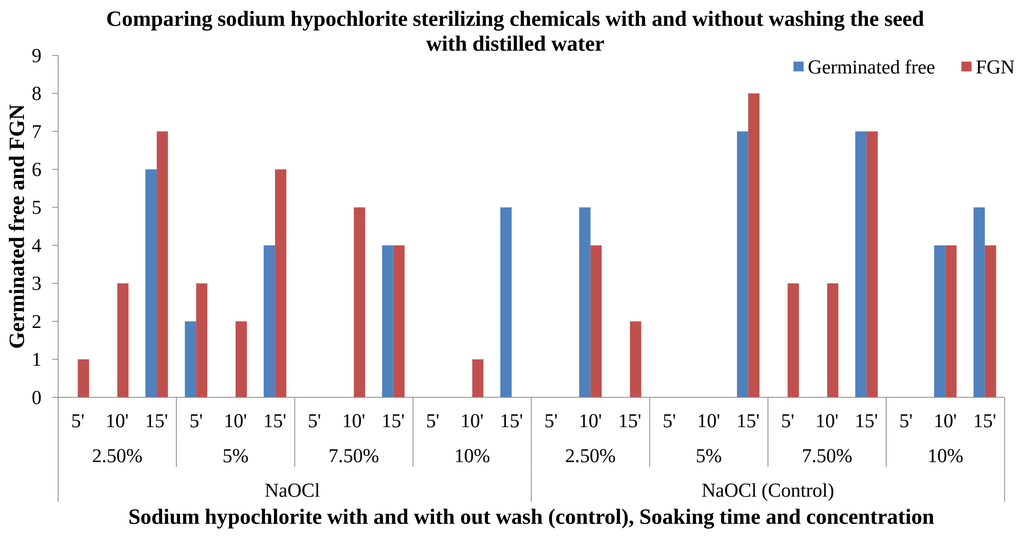


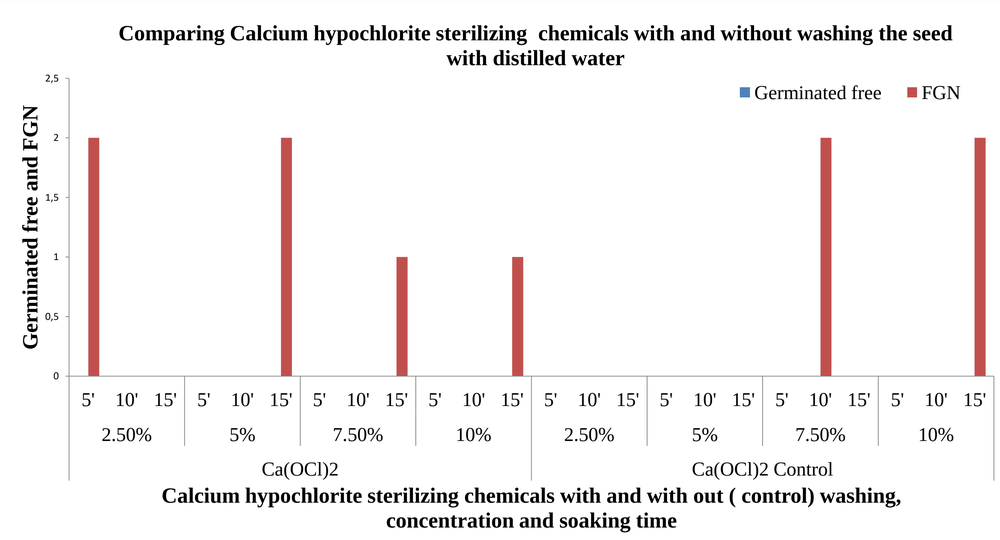
CONCLUSION

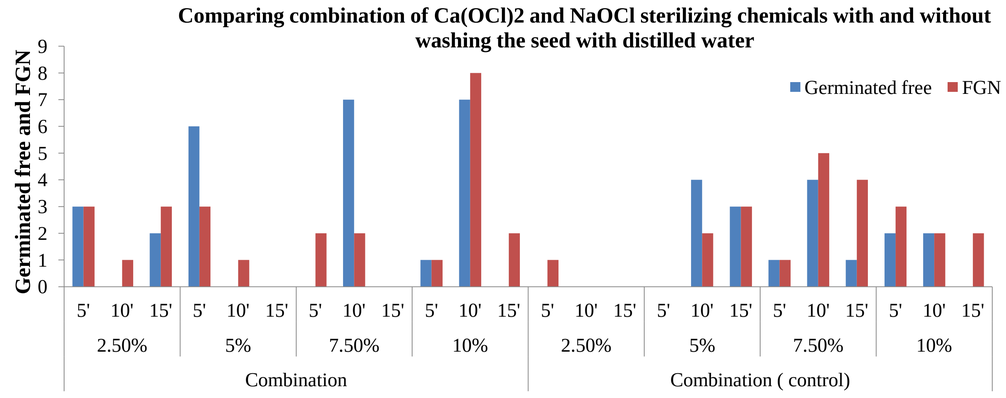
• Sterilizing chemicals were compared with and without washing the seed with distilled water
• NaOCl @ (5%*15') showed better seed sterilization than combination with Ca(OCl)2
• Ca(OCl)2 resulted in poor seed sterilization, germination and FGN

RESULTS









PICTORIAL PROCEDURE

CHALLENGES

•Fungal and bacterial attack

ACKNOWLEDGMENT

This research was financialy supported by the Czech Ministry of Foreign Affairs as part of the Czech Republic Development Cooperation under the project "Publication and research Activities development for Education in Life Sciences at Hawassa University", number 22-PKVV-10.