

# Sowing dates and depth affects growth and yield of potato in Dailekh

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## Introduction

In higher altitudes where it is difficult to grow other staple crops, potato is an excellent food source for communities. Inappropriate planting time, water scarcity, low quality seed potatoes, unsatisfactory input, disease and pest management result in low production and productivity of potato in Karnali (HRS, 2019).

## Research questions

- Identify appropriate sowing date of potato for early summer season in Dailekh
- Optimum sowing depth for quality tuber yield of potato in Dailekh

## Methodology

The experiment was conducted in the College of Natural Science Management (CNRM), Dullu, Karnali Province, Nepal. Experimental period: February-July, 2024

- Variety: Desiree
- Experiment design: Two-factor RCBD
- Factor A – Date of sowing (22ndFebruary, 3rdMarch, 13thMarch)
- Factor B – Depth of sowing (10cm, 15cm)
- Interaction effect – Date of Sowing\*Depth of Sowing
- Planting Details:
  - Plant to Plant Spacing = 25 cm
  - Row to Row Spacing = 30 cm
  - Hill Width = 50cm, Hill Height =30cm
  - Individual Plot = 4 rows, each row with 6 plants/hill.
- Soil Parameters:
  - Random soil samples were taken from various parts of the experiment site.
  - Ph(6.9), EC (198dS/m), SOM (2.64%), Total N (0.042%), Available Phosphorus (29.19 kg/ha), Available Potassium (134.4 kg/ha) as per the soil analysis report at Lumbini AgroEnvironment Lab Pvt. Ltd., Nawalparasi.

## Key findings

- Growth attributes (Days to 50% germination and no. of stems per plant) and yield attributes (Marketable yield and Total Yield per hectare) were specifically observed during the experiment.

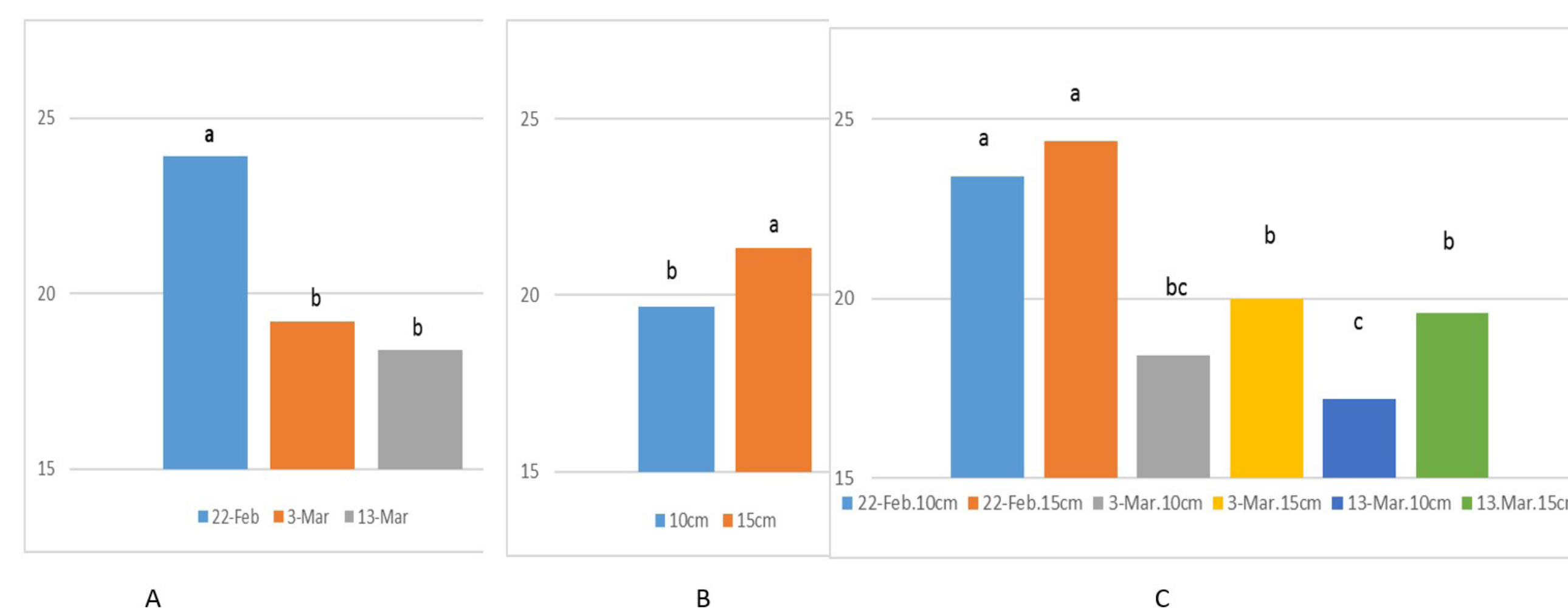


Figure 1: Effect of Date of Sowing (A), Depth of Sowing (B) and Interaction of Date and Depth of Sowing(C) on Days to 50% Germination in Early Summer Sown Potato in Dailekh, Nepal, 2024

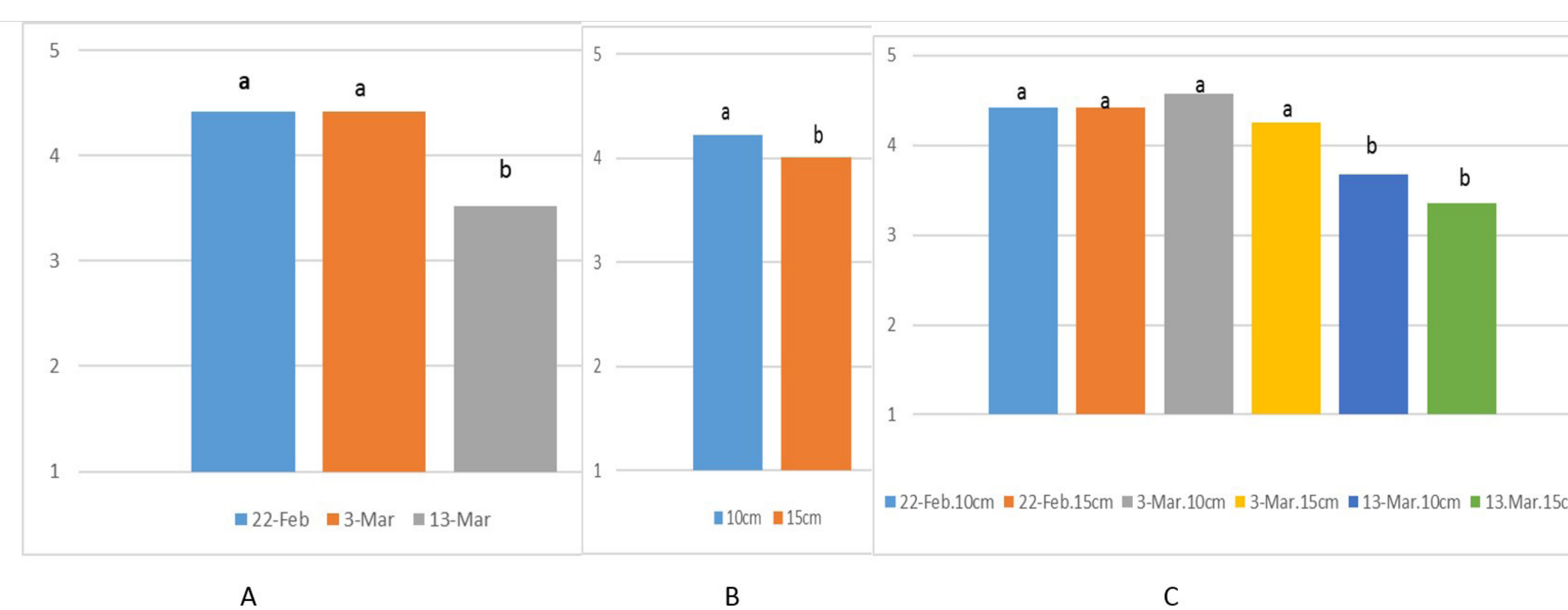


Figure 2: Effect of Date of Sowing (fig. A), Depth of Sowing (fig. B) and Interaction of Date and Depth of Sowing (fig. C) on No. of Stems per plant in Early Summer Sown Potato in Dailekh, Nepal, 2024

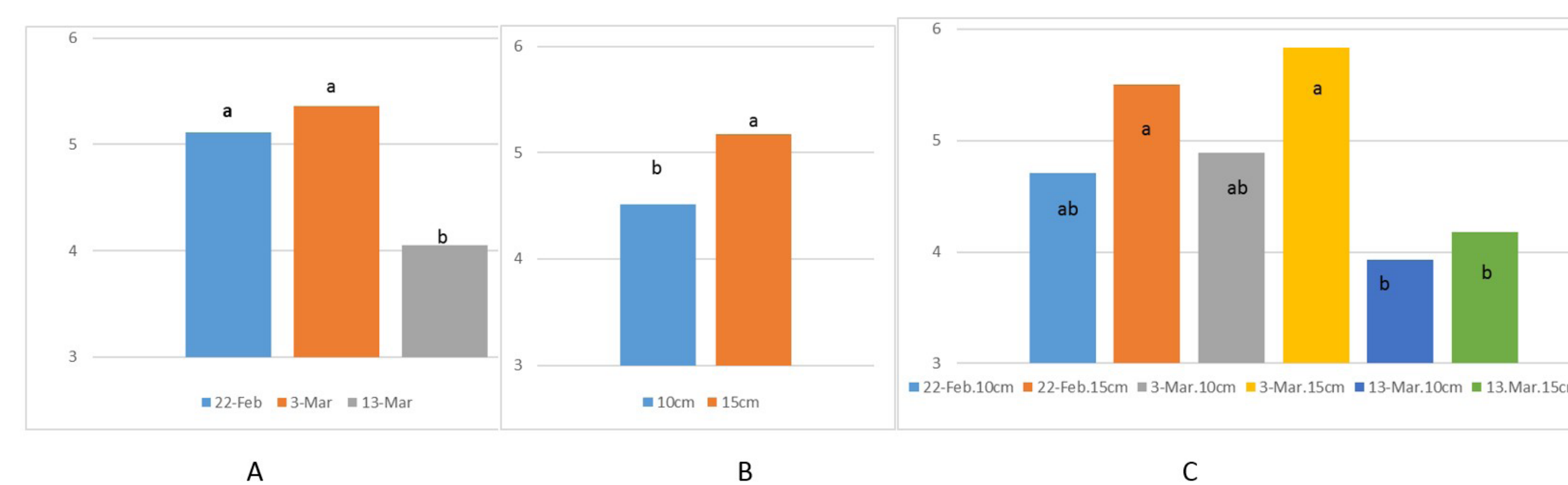


Figure 4: Effect of Date of Sowing (A), Depth of Sowing (B) and Interaction of Date and Depth of Sowing (C) on Marketable Yield per hectare in Early Summer Sown Potato in Dailekh, Nepal, 2024



## Conclusion

From this study, it can be concluded that sowing of potato from 22 Feb to 3 March at 15 cm depth for higher marketable yield can be recommended to farmers in this area and other similar areas.

