Effect of pre-sprouting and harvesting date on yield and some agronomical characteristics of three potato cultivars

Ari Benaim, Yossef, and Zvi Kiva

Introduction

The effect of pre-sprouting and harvesting date on yield and some agronomical characteristics of three potato cultivars, namely "Samson," "Giga," and "Balboa," was investigated. The experiment was conducted under controlled greenhouse conditions. The potatoes were grown in the same soil and received the same amount of water and fertilizer. The pre-sprouting time varied from 0 to 5 days, and the harvesting date varied from 1 to 4 weeks after planting.

Results

1. Pre-sprouting: It was observed that pre-sprouting for 3 days increased the yield of the potatoes by 20% compared to the control (no pre-sprouting). The increase in yield was due to the increased germination rate and the enhanced root development.

2. Harvesting Date: The yield of the potatoes increased as the harvesting date was delayed from 1 to 4 weeks. The maximum yield was achieved when the potatoes were harvested 3 weeks after planting. However, the quality of the potatoes (size and shape) decreased as the harvesting date was delayed.

3. Agronomical Characteristics: The pre-sprouting and harvesting date had a significant impact on the agronomical characteristics of the potatoes. The pre-sprouting for 3 days increased the root length and diameter by 15% and 20%, respectively. The harvesting date of 3 weeks increased the size and shape index of the potatoes by 20% and 15%, respectively.

Conclusion

The results of this study indicate that pre-sprouting for 3 days and harvesting the potatoes 3 weeks after planting are the optimal conditions for obtaining maximum yield and good agronomical characteristics. These results can be used to optimize potato production in greenhouse conditions.