

**SEED TUBER PRODUCTION RESISTANT AGAINST
SOME DISEASES USING TRUE POTATO SEED (TPS)**

BY

NIZAR KAMEL HAMMOUD

B.Sc. Agric. Sc. (Horticulture), Aleppo University (Syria), 1998

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This thesis for M.Sc. degree has been approved by:

Prof. Dr. Ramzy Ahmed El-Bedewy

Head of Research Emeritus, Horticulture Research Institute,
Agricultural Research Center

Prof. Dr. Ayman Farid Abou Hadid

Prof. of Vegetable Crops, Faculty of Agriculture, Ain Shams
University

Prof. Dr. Mohamed Hashim Al Deep

Prof. of Vegetable Crops, Faculty of Agriculture, Ain Shams
University

Date of Examination 3 / 7 / 2005

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NIZAR KAMEL HAMMOUD

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Under the supervision of:

Prof. Dr. Mohamed Hashim Al Deep

Prof. of Vegetable Crops, Dep. of Horticulture, Faculty of
Agriculture, Ain Shams University (Principal Supervisor)

Dr. Salah Eldin Mahmoud Elminiawy

Assis. Prof. of Vegetable Crops, Dep. of Horticulture, Faculty
of Agriculture, Ain Sham University

Dr. Ahmed Abo El-Yazied

Assis. Prof. of Vegetable Crops, Dep. of Horticulture, Faculty
of Agriculture, Ain Shams University

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ABSTRACT

Nizar Kamel Hammoud. Seed Tuber Production Resistant Against Some Diseases Using True Potato Seed (TPS). Unpublished M.Sc. dissertation, Ain Shams University, Faculty of Agriculture, Department of Horticulture, 2005.

Seven true potato seed (TPS) hybrids were evaluated at the International Potato Centre station (CIP) at Kafr El-Zayat, El-Gharbia governorate, Egypt during 2002 to 2004 seasons. This study aimed to develop the agricultural practices for potato production from seedling tubers appropriate to grower's capabilities in Egypt. Using the new technique of potato cultivation by TPS in Egypt, as an alternative method for production, to decrease the importation of seed tubers from European countries every year. The optimum plant population in the nursery bed was 100 plants per m² spaced at 10 cm x 10 cm. The results showed a promised productivity of seedling tubers produced from the hybrids Serrana x TPS 67, HPS I/67 and HPS II/67 in which had the highest yields in both seasons.

The average yield of the tested progenies of (G1) ranged from 20.56 t/ha to 32.15 t/ha. The most promising hybrids for potato production were HPS II / 67 (30.95 to 32.15 t / ha) for the fall season and HPS I / 67 (29.82 to 30.62 t /ha) for the spring season.

The yields obtained were 32.68, 31.59 and 25.76 t/ha from second generation tubers of HPS I/67, Serrana x TPS 67 and the European variety Diamant respectively for the fall season, while in spring season Serrana x TPS 67 had the highest value 31.10 t/ha without significant differences to Diamant variety (29.60).

Infection rate with PLRV and Mosaic was very low during the different growing seasons in hybrids progenies compared to Diamant variety.

Diamant variety and Atzimba x TPS 13 had the highest values of virus infection (PLRV and Mosaic viruses) while Serrana x TPS 67 and HPS I /67 had the lowest values.

Key words: True potato seed, TPS, seedling tuber, hybrids, potato, production, virus infection.

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LIST OF ABBREVIATIONS/CONVENTIONS

<	less than
>	more than
°C	Degree Celsius
CIP	International Potato Center
cm	centimeter
cv.	cultivar
g	gram
ha	Hectare
kg	kilogram
m	meter
PVS	Potato Virus S
PVY	Potato Virus Y
PVX	Potato Virus X
PLRV	Potato leafroll Virus.
Seedling tuber	tuber produced from a plant originating from true seed
Seed tuber	tuber produced from a plant originating from a tuber
t	metric ton
TPS	true potato seed

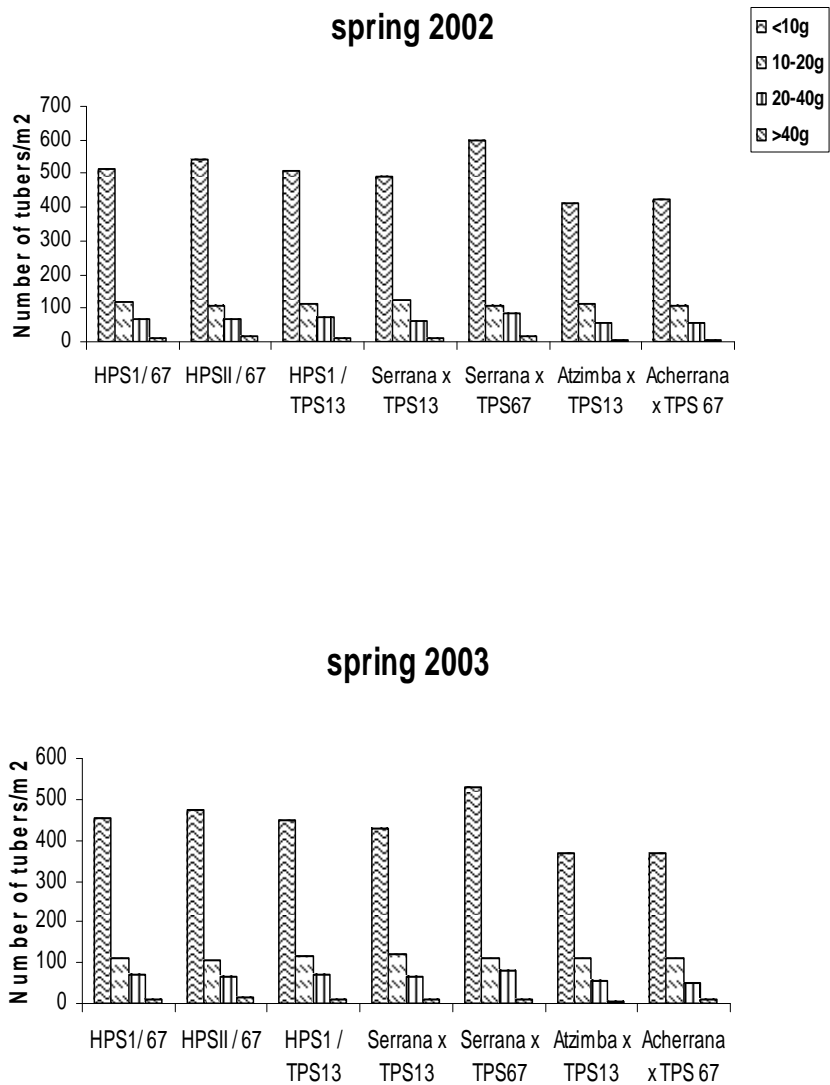


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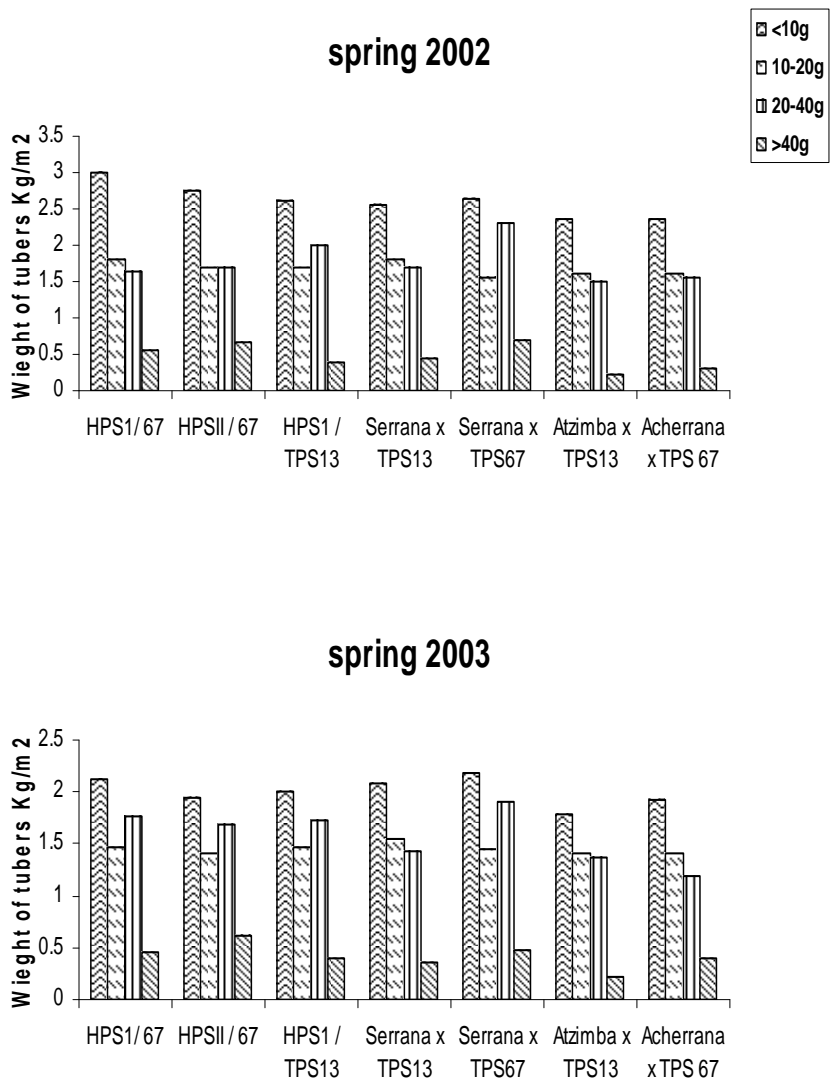


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