GERMINABILITY OF SWEET PEPPER IN RELATION TO FRUIT MATURITY

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B. Sc. Ain Shams University

1962

Thesis

Submitted in Partial fulfillment of the requirements

for the degree of

MASTER IN SCIENCE

Plant Production Department

Faculty of Agriculture

Ain Shams University

1970

This Thesis for the M.Sc. Degree has been

approved by:

...

...

...

Date / /1970

ACKNOWLEDGMENT

The writer wishes to express his great appreciation
[illegible] to Professor Dr. M...Mursi, Professor [illegible]
[illegible] and Mrs. Nagia M. Gomaa lecturer in Horticulture [illegible]
under supervision this work was undertaken. Their
kind assistance and precious advices are involved
[illegible] study and preparation of this work.

Sincere thanks are also due to Dr. M...Tawfik
[illegible] Prof., Botany Dept., and Dr. D.M...El-Hariri
[illegible] in National Research Centre.

Great thanks are also due to all who have given
[illegible] and facilities to carry out this work.

C O N T E N T S

I - INTRODUCTION

[illegible] several reasons it is very important to [illegible] of maturity in both the fruit and the seed in [illegible] crops. It is important also to know the effect of [illegible]ation stage of the seeds upon germination. In many [illegible] period of several days elapses between the first and [illegible]ates of ripening of seeds. So, it is very useful [illegible] the most profitable stage to harvest the pepper [illegible] stage of fruit and seed maturity of pepper plant [illegible] to their keeping quality. It is necessary to [illegible] first stages at which the seed can be harvested [illegible] reduction in germination capacity, vigority of [illegible] of seedlings.

[illegible]ork was designed to investigate the seasonal [illegible] germination percentage of seeds of pepper plants. [illegible]ation was given to the effect of soaking pepper [illegible] in different concentration of some growth regulators on [illegible] percentage and vigorosity of seedlings.

II. REVIEW OF LITERATURE

Seasonal changes in the germination of seeds.

There is a great difference in germination of seeds of [illegible] crops with their advancement towards maturity. [illegible], in Brassica alba the testa prevented germination [illegible] ...ds were green as indiccated by Kidd and West (1[illegible]. ...seeds ripened and turned yellow the seed coat was [illegible] ...ive in preventing germination untile, with complet[illegible] ...ity, no oppreciable influence was shown.

...eet corn seeds harvested 1[illegible] to 55 days fro[illegible] ...ed showed low germination in very immatur[illegible] ...ported by Walker (1933). After 31 days fro[illegible] ...xcellent germination was obtained. The conclusion w[illegible] ...that good germination and strong plants could [illegible] ...quite immature but fairly well developed seeds that [illegible] ...well cured and properly stored.

The relation of moisture content and time of harv[illegible] ...n investigated by Sprague (1936). He revea[illegible] that ...sweet corn seeds became capable of germinati[illegible] ...tion of moisture to approximately 25 percent.

Cochran (1937) pointed out that the young [illegible]

...-cells embryo, which ... portions of the mature embryo. ... ...sion cell in advance of those of the embryo ... the entire embryo sac. The endosperm is ... by the embryo, however, at maturity a large portion ...osperm still remains.

... samples of each species were taken at ... from that at which the flowers ... the various stages of maturity after fertili... plants within the family corporitae ... out in the flowering stage ... Hill (1938).

...rn (1942) concluded that the stage of ... had a direct effect upon the germination ... seeds. Seeds planted immediately upon removal ... fruits did not give more than 6.1 percent germinati... when the fruits had ripened sufficiently to ... only 5.5 percent of their seed germinated. ... as well as those which had remained on the ... seeds dark red and shriveled yielded seed ... germination capacity.

...ng (1949) compared the seeds from mature ...

... immature fruit picked when sufficiently mat... ... seeds from mature squashes germinated 91 percent ... 7.3 grams/100 seeds, seeds from immature fr... ... only 1[illegible] percent and weighed 5.32 grams/[illegible].

... and Mahmoud (1952) working on California ... found that complete germination was achieved at ... fresh time color had started to develop. Fruits ... marketable size at this time. The seed weight ... total fresh fruit weight ranged from 1.[illegible] ... reached their marketable size at [illegible] days ... size, at which color had developed fully. ... variety followed the same general trend. ... to change color, however at [illegible] days. ... germination of 50 percent had been attained ... ed from fruits 43 or more days after anthesis ... reached 100 percent. The seed weight in percent ... ght ranged from 1.[illegible] to [illegible]. Fruits of the ... same variety started to develop color at [illegible] ... Complete germination was obtained from ... from fruits 36 days after anthesis. The ... in relation to fresh fruit weight ranged from ... It was noted that the development was slower ... than in the two mentioned previously.

...rington (1952) working on muskmelon, ... anthesis the percentage germination of the seeds ... it increased steadily to ... percent when it was ... after 37 days from anthesis. The more mature ... seeds up to 42 days, the higher was the germination ...

... (1959) indicated that peppers harvested ... stage and then after ripened had thinner ... ing matter and provitamin A, but more ash or ... than those picked at the red-ripe stage.

... (1960) noticed special features on the ... development of the embryo sac and division of the ... nucleus in the pollen tube.

... (1961) concluded that the germination percentage ..., sweet-melon, water-melon and squash increased ... and consistently with age. He suggested that the ... these crops did not germinate till they reach ... stage of development.

... (1962) working on red pepper found that the ... time of the first flower and that of ripening of the ... fruit were found to be the most reliable indicators of ... of development.

[illegible] (1962) demonstrated that sweet pepper [illegible] in different stages of ripening were of varying [illegible] Germination capacity and seed viscosity increased [illegible] ripening. The maximum weight, growing energy [illegible] and productivity of seeds progeny occurred [illegible] was 30-40 days old and decreased at 5 days.

[illegible] seed in a fruit germinated till the 7th, 6th to [illegible]th day after flower anthesis for vegetable marrow, [illegible] okra fruits respectively as shown by Nour El- [illegible] She pointed out that the radicle length of vegetable [illegible] cowpea and okra increased with the advancement [illegible] towards maturity. She added that the germination [illegible] and the length of the fruits increased consistently for vegetable marrow, cowpea and pea fruits.

[illegible]owska (1964) showed that seeds of several pepper [illegible] that had been stored in sacks showed that the total [illegible] germination percentage and germinating power were high [illegible] old seeds, remained good in 5 years old seeds but [illegible] sharply after 7 years.

[illegible]peldon and Pevnè (1964) pointed out that the germination power and percentage, seed weight, plant productivity [illegible] fruit weight were studied in two Capsicum varieties [illegible]

- ... were obtained from fruits picked at green ripe ... maturities and extracted 1-5 days after picking ... after picking and after drying in a tobacco ... The qualitative characters of the seeds had no ... effect on productivity. Without post-harvest after ..., only seeds from fully mature or nearly mature fruit ... satisfactory germination.

... (1965) reported that at the beginning of the ... stage, the cavity of the pepper fruit contained ... and 16.4 - 18.5 ... after fruit colouring ... amount of CO_2 gradually increased to ... days, and that of O_2 increased to ... respiration probably stimulated viability of ... promoted their germination inside overripe fruits.

... (1966) cleared that the quality of sweet ... varies considerably. Seeds from the fruits located ... stem and the branches of the 1st and ... orders had ... physical and biological properties. During the 1st ... days of maturity, the seed quality gradually improved.

... (1968) pointed out that the embryo passes ... series of discrete morphological stages which are ..., first the formation of the suspensor and the ...

[illegible] the formation of [illegible] primordia, the [illegible] stem, the cotyledon, and the shoot [illegible]. [illegible] the process from zygote to mature embryo [illegible] days. During embryo development, especially [illegible] the cotyledons, the endosperm tissue [illegible] utilized by the embryo. Thus the endosperm [illegible] which the embryo developed. When the embryo [illegible] the endosperm may be all gone.

Effect of treating seeds with growth regulators on the germination percentage of seeds and seedling vigor etc.

Treating seeds with growth regulators gained [illegible] the last two decades. The literature dealing [illegible] effect of soaking pepper seeds in a solution of [illegible] this is quite scarce. Consequently, the literature [illegible] with other yield crops was reviewed.

Cochran (1935) showed that soaking pepper seeds for [illegible] in tap water at 71° F previous to planting [illegible] in little or no increase in speed of germination [illegible] three of the 10 comparisons the treatment increased [illegible] germination percentage.

[illegible] in moist chambers carried out by Miller and

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... showed that 2,4-D was found to c... g...
... abnormalities in the s... ...
... broadleaf and cereal sp...

... riments carried out by Hamner ... of 2,4-D ... the normal germination of many s... ... in low concentration of 2,4-D. ... ... s occur when certain s... or treat... ... containing as low as 1 p.p.m.

... periments carried out by Hsueh ... ... auxin 2,4-D at low concentrations ... ... tion; but at higher concentrations ... ... aerobic respiration and germination.

... eating Capsicum with TIPA (2,3,5 tri-io... ... terial vegetative growth, and accelerate... ... as reported by Schenck (1957).

... Schenk (1955) on pepper found that the tr... ... ds with β-indolbutyric acid (with a very low ... tion i.e. 10 mg.) to stimulate growth was fo... ... most satisfactory, higher concentrations ... ... development.

... vis (1956) treated the seeds with Gibberel... ...