

Efal Agri
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August 25, 2019.

Dear Sir,

Re: MICROBIOLOGICAL TEST OF SEEDS

Hereby, please find results of 1 tomato seeds sample, brought to our laboratory on August 14, 2019.

Transportation: The sample was received in the laboratory without any means of protection from temperature changes.

The sample was tested for:

- Pseudomonas syringae* pv. *tomato* (Pt) - 2 replicates of 1000 seeds
- Pseudomonas corrugata* (Pc) - 2 replicates of 1000 seeds
- Erwinia carotovora* (Er) - 2 replicates of 1000 seeds
- Xanthomonas campestris* pv. *vesicatoria* (Xv) - 2 replicates of 1000 seeds
- Clavibacter michiganensis* sp. *michiganensis* (Cmm) - 2 replicates of 1000 seeds
- Tobamoviruses (TMV, ToMV, ToMMV, ToBRFV) - 100 replicates of 6 seeds each, by the bioassay method.
- Pepino Mosaic Virus (PepMV) - 100 replicates of 5 seeds each, by the ELISA method.
- Potato Spindle Tuber Viroid (PSTVd) - 3 replicates of 200 seeds.
- Nepoviruses – 100 replicates of 6 seeds
- Fusarium oxysporum* – 300 seeds

The tests were performed according to:

- S.O.P 50: "Testing seeds for viruses by the ELISA method".
- PepMV**: Prime, Lot: P81886/ P81915, Ex: 02/21
- S.O.P 54: "Testing Tomato and Pepper seeds for Pt, Pc, Xv, Cmm, Er"
- S.O.P 56: "Detection of infectious Tobamoviruses in tomato and pepper plants and seeds" according to: ISTA 7-028 (2019), ISHI-Veg (Sep 2019) "Detection of Infectious Tobamoviruses in Tomato seed" and "Detection of Infectious Tobamoviruses in Pepper seed".
- S.O.P 80: "Detection of Viroid from the Pospiviroid group including Potato Spindle Tuber Viroid (PSTVd) in plants and seeds by RT-PCR or qPCR method".
- S.O.P 83: "Detection of Fungi in seeds for: *Fusarium*, *Didymella*, *Phoma*, *Lasiodiplodia*, *Macrophomina*, *Colletotrichum*, *Alternaria*, *Stemphylium*, *Cladosporium*, *Phytophthora*, *Verticillium*, *Botrytis*, *Ascochyta*, *Bipolaris*, *Sclerotinia*".
- S.O.P 103: "Detection of viruses in Solanaceae seeds".

RESULTS:

Lab No.	Sample	Pt	Pc	Er	Xv	Cmm
5442	Tomato seeds Mix T-834*	Negative	Negative	Negative	Negative	Negative

Lab No.	Sample	Tobamoviruses	PepMV	PSTVd	Nepoviruses	<i>Fusarium oxysporum</i>
5442	Tomato seeds Mix T-834*	Negative	Negative	Negative	Negative	Negative

***Mix T-834:**

E15B.41778

E15B.50546

Bosco

15C.41527

Caravaggio

Mozateco

E15C.41774

E15C.41850

Comments:

1. ISRAC is not responsible for the testing results conducted by the laboratory and the laboratory's accreditation is not considered as an approval of ISRAC or different party related to the assessed.
2. This document must be referred to entirely and copying of any part of it to other documents is forbidden
3. The data in this certificate reflect results that are valid for analyzed samples only as received in the lab.

End of certificate.

Sincerely yours,



Isaac Assouline

Head Microlab Laboratories (99) Ltd.