# Studies on viruses affecting banana in Egypt

By

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## Approval Sheet

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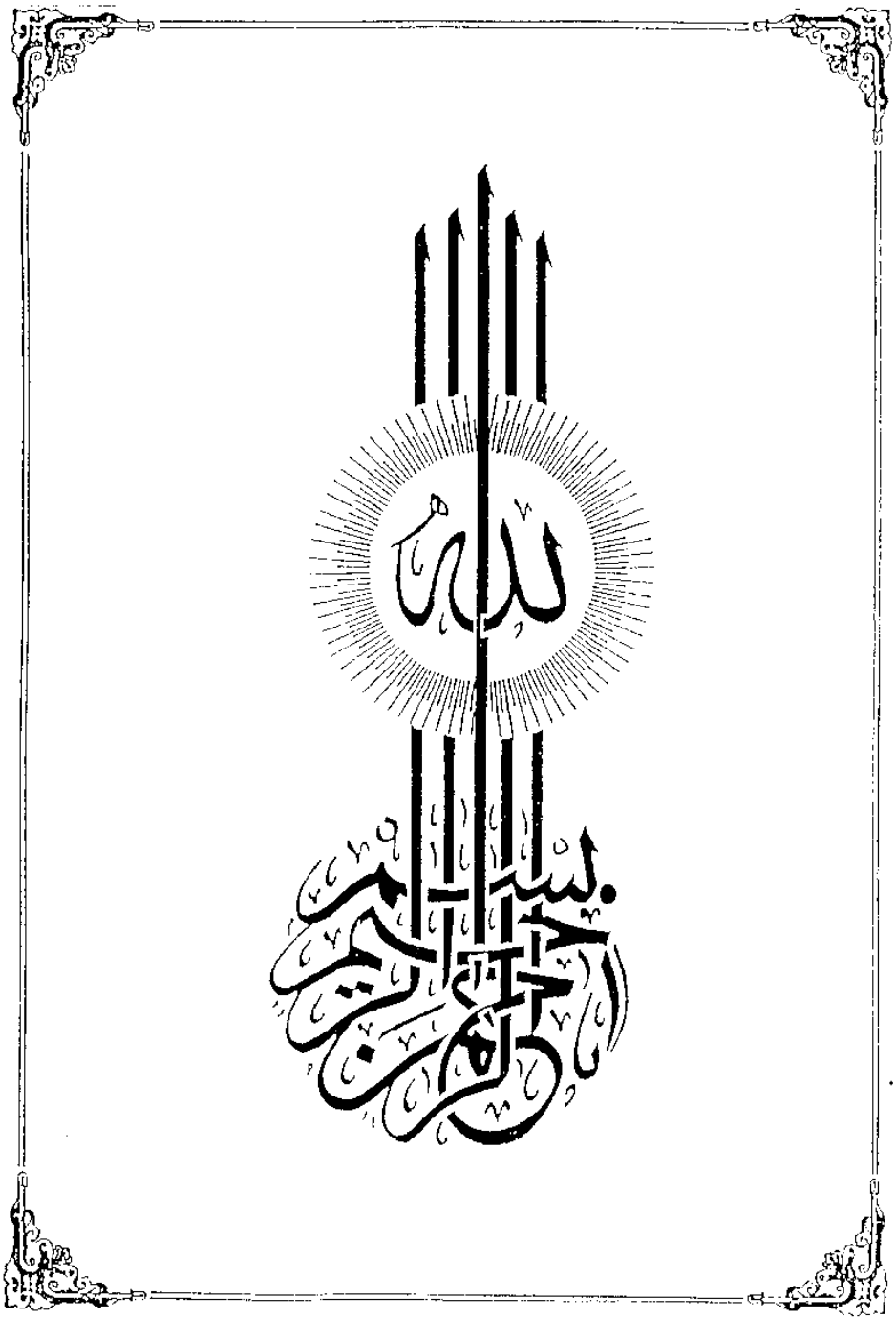

malathion, elimination of weeds and grasses and roguing and destroying the diseased plants after decay.

For BBTD, the biological detection of BBTV, including symptomatology, mode of transmission, purification, electron microscopy and ultrast-ructural changes in leaf cells of BBTV-infected plants were carried out. Also, radioactive detection of an Egyptian-BBTV isolate, radioactive detection of BBTV in different parts of plants and also in symptomless young plants prepared from healthy and diseased materials in tissue culture were studied. A $^{32}$P-labelled insert of pBT338 was used for hybridization in either Southern or dot blot hybridsations. PCR was developed as one of the non-radioactive detection techniques. Different extraction buffers and techniques were used for the PCR detec-tion of BBTV in crude sap and nucleic acid extracts from purified virus, and from healthy and diseased plants. The relationship between the Egyptian-BBTV isolate and other overseas isolates from Australia, Burundi, France, Gabon, Philippines, and Taiwan was carried out using PCR. Also, the relationship between Egyptian-BBTV and other viruses affecting banana was demonstrated by the PCR technique. The comparison of $^{32}$P-labelled molecular hybridization technique with colorim-etric and chemiluminescent assays for the detection of BBTV was studied. The insert from pBT338 labelled with digoxigenin (11-dUTP) was used for hybridization in both Southern and dot blot hybridizations.

Keywords

BBTV : Banana bunchy top virus.

BMV : Banana mosaic virus.

Purification of BBTV.

Elecron microscope.

Radioactive detection of BBTV using $^{32}$P-labelled molecular hybridization tecnique.

Dot blot hybridization technique.

Southern blot hybridization technique.

Non-radioactive detection of BBTV using colorimetric and chemilumenscent assays.

PCR: Polymerase chain reaction.

Digoxygenin (11-dUTP).

The nucleotide sequence of EBBTV-DNA-2 genome.

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