The present investigation has concerned with the study of the yellow said disease of squash (Cucurbita pepo L.) caused by Zucchini Yellow Mosaic Virus (ZYMV). The virus-infection had resulted in yield reduction and low quality of fruits in squash and other cucurbit cultivars grown in the western region of Saudi Arabia. Squash plants of the cultivar Scarla were used as test plants throughout this work. Results obtained could be summarized as follows: 1- Isolate of Zucchini Yellow Mosaic (ZYMV) was obtained from naturally infected squash plants grown in Tulihat farms, Shifa, Taief. Symptomatology, transmission, host range, diagnostic host reaction, production of intracellular inclusion bodies, physical properties, and reaction of isolated virus with specific antisera were criteria used for virus identification. 2- Zucchini Yellow mosaic Virus (ZYMV) readily transmitted mechanically to healthy squash seedlings by rubbing the infectious crude sap on the cotyledonary leaves dusted with curborandum. Inoculated seedlings of the cultivar Scarla developed systemic infection symptoms 5-7 days after inoculation. Disease symptoms appeared regularly in all inoculation trials on developing leaves starting from the second true leaf. The characteristic disease symptoms were clear yellow mosaic, blisters, rugose, qistortion, and severe reduction in laminae. Vein-clearing symptom developed early on leaves and later resulted in obvious reticulated-veination. The true leaf developed on inoculated plants was almost symptomless. Local lesions were occasionally formed on cotyledonary leaves 6-8 days after inoculation with the infectious crude sap. Infected leaf petioles showed irregular thickness and became flattened or twisted. Fruits from diseased plants were deformed, small sized, and showed white knobs on the surface. -The host range and diagnostic host reaction of ZYMV was estimated by testing 58 plant species and varieties belonging to eight plant families. ZYMV exhibited a narrow host range. The virus systemically infected all tested cucurbit species and varieties including squash (Cucurbita), watermelon (Citrullus lanatus), melon (Cucumise), Snake cucumber Cucumis melo var. flexuous, cucumber (Cticumis sativus), pumpkin (Cucurbita maxima), and luffa (Luffa acutangula).J Local lesions were produced on inoculated leaves of Gomphrena (Gomphrena globosa), Chenopodium (Chenopoaiu amaranticolor, C. muralis, C. quinoa) and Beans (Phaseoulus vulgaris var. Black turtle-2). The variety Azmerly of Cowpea (Vigna sinensis) r was also systemically infected. ZYMV had nod caused systemic or local infection on other 30 tested plant species and varieties. 4- ZYMV infection induced cytoplasmic cylindrical inclusions in the cells of upper epidermis of Scarla squash and charleston gray watermelon leaves after staining with calcomine.
orange and luxol-brilliant green. S- The physical properties of ZYMV were: Dilution End Point (DEP) $1 \times 10^{-4}$, Thermal Inactivation Point (TIP) 70°C for 10 min, and longevity in vitro was 9 days at room temperature (25°C). 6- ZYMV particles obtained from leaf sap and examined by negative staining with 2% potassium phosphotungstate revealed that particles are flexuous and measured about 730 nm in length. 7- ZYMV isolate had positively reacted with antiserum of the Italian isolate of ZYMV in SDS-Agar Double Diffusion Test. 8- Spread and relative concentration of ZYMV in different organs of Scarla squash plants was estimated applying the local

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