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The mysterious story of tomatoes ■ & cigarettes ■
An interesting scientific story discussed by Kenneth M. Smith (1892-1981) who is considered to be one of the pioneers of the scientific field of 'Virology'. Long thread, Enjoy the Sunday reading ■1/n



In his 1943 book, Smith wrote about a story of two American tobacco farmers, one of whom was much troubled by outbreaks of tobacco mosaic disease in his crops, while the other managed to keep his plants fairly clear of the trouble. 2/n



Furthermore, the first farmer noticed that the infection tended to occur in a straight line (tobacco mosaic is very infectious disease & it is not insect-transmitted). So, Smith assumed that the disease seemed to follow the movements of the farmworkers who tended the plants. 3/n

It seemed likely, therefore, that they were the transmitting agents. Closer inquiry into the personal habits of the farmworkers revealed the fact that several of them indulged in the practice of chewing tobacco, & herein, lies the clue to the mosaic infection. 4/n

The virus of tobacco mosaic is one of the most stable & resistant viruses known, & some brands of chewing tobacco are not subjected in the curing process to sufficiently high temperatures or other treatments which would destroy the virus. 5/n

In consequence the farmworkers who chewed tobacco were liable to have virus on their hands or implements & the transfer of the virus to the plants under their care was therefore an easy matter. 6/n

Now this virus of tobacco mosaic is capable of causing disease in many other plants such as tobacco, producing a disease known as tomato mosaic. Tomato mosaic was the cause of serious loss to growers every year. 7/n

Frequently a tomato-farmer came to Smith & complained that in spite of all his efforts the disease reappears every year in his glasshouse crops of tomatoes. 8/n

Smith asked about the precautions he had taken & he replied that his glasshouses had been cleaned, the soil sterilized, seed obtained from a new source, houses fumigated & so on. 9/n

Then Smith asked if he has asked his farmworkers to stop smoking cigarettes while they tended the tomato plants? The farmer said – No, he didn't know that mattered; Smith explained that - it does matter, quite a lot. 10/n

Because many brands of cigarettes & pipe tobacco contain the virus of tobacco mosaic in an infective state, & it is easy to contaminate hands with virus while holding the cigarettes & then gradually the transfer of virus to the plants. 11/n

It takes only to infect a few tomato plants in a greenhouse holding several thousand plants; after that the virus is passed on from plant to plant on the hands of the workers during routine tending of the crop, so that before the end of the season,... 12/n

every plant in the greenhouse may be infected. So he suggested the farmer, that he tells his cigarette smoking farmworkers who tend tomato plants, to wash their hands thoroughly with soap & hot water before they start work, & never smoke whilst they are tending the crop. 13/End