**Disease Note**

# FIRST REPORT OF ROT DISEASE ON POST-HARVEST LOTUS ROOTS CAUSED BY *FUSARIUM OXYSPORUM* IN CHINA

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Lotus root (*Nelumbo nucifera*) is an economically important aquatic vegetable in China. In September 2015, rot lotus roots occurred in several storage and warehouses in Wuhan, Hubei Province, China. Samples of symptomatic epidermis were surface disinfected in 75% ethanol for 30 s, 3% sodium hypochlorite for 5 min, rinsed in sterile water for three times, dried under aseptic conditions, placed onto potato dextrose agar (PDA) and synthetic low nutrient agar (SNA) (Zhang, 2005), then kept at 26°C for 5 days in the dark. A *Fusarium* sp. was isolated from symptomatic and rotten epidermis. On PDA, aerial mycelia were dense and flocculent, and formed a white colony with circular, light pink to purple pigments in the medium with age. On SNA, macroconidia with 2 to 4 septa were slight, slender, curved to lunate. Microconidia were abundant and oval in shape with 0 to 1 septa. DNA was extracted by CTAB method (Borges, 2009) and the internal transcribed spacer (ITS) region comprising ITS1, ITS2 and 5.8S rDNA was amplified by primers ITS1 and ITS4 and sequenced. BLAST analysis revealed 99% similarity with *F. oxysporum* sequence (GenBank accession No. KX810323). Using species-specific PCR primers FOF1 (5'-ACATACCACTTGTTGCCTCG-3') and FOR1 (5'-CGCCAATCAATTTGAGGAACG-3') of *F. oxysporum*, a 340 bp band was obtained (Mishra *et al*., 2003). Pathogenicity test was performed by inoculating surface-sterilized, mature lotus roots wounded with a nail, with a mycelial plug of a 5 day-old fungus culture; lotus roots treated with plain PDA plugs were used as control. Lotus roots were placed in crispers at 18 ± 2°C and 75 ± 5% relative humidity. After 3 weeks, the inoculated roots exhibited surface rot similar to that observed before. *F. oxysporum* was re-isolated from all inoculated lotus roots, whereas controls showed no symptoms. To our knowledge, this is the first report of *F. oxysporum* causing rot on post-harvest lotus roots in China.

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**Disease Note**

# FIRST REPORT OF *BANANA BRACT MOSAIC VIRUS* IN BANANA IN ASSAM, INDIA

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Banana bract mosaic disease was first recorded in 1966 in a plantain cv. Nendran as Kokkan disease of unknown etiology in Kerala. The causal agent was identified as *Banana bract mosaic virus* (BBrMV, genus *Potyvirus*, family *Potyviridae*) (Rodoni *et al*., 1997). BBrMV causes major losses to banana growers in four southern states of India (Selvarajan and Jeyabaskaran, 2006), but has not been recorded in north and north east region (NER) of India. In June 2016, banana plants of cv. Chini Champa (Syn: Mysore, AAB) showing spindle shaped pinkish to reddish mosaic and streak symptoms on pseudostem and bracts were observed in a field located in Kahikuchi, Assam. Initially 15 plants were tested to be positive for BBrMV using antigen-coated plate (ACP)-ELISA with BBrMV-specific polyclonal antiserum developed at Indian Council of Agricultural Research-National Research Centre for Banana, Tiruchirappalli. Total RNA was isolated from the leaves of infected plants and RT-PCR was performed using the coat protein gene specific primers (RSR10FP: 5'-ATAGGATCCTCTGGAACGGAGTCAACC-3' and RSR10RP: 5'-TTCATGTTTCATCCCAAGCAGAG-3') (Balasubramanian and Selvarajan, 2014). An expected 900 bp size fragment obtained from the infected plant was cloned into TA cloning vector pTZ57R/T and sequenced (GenBank accession No. KY369923). No amplification was obtained from healthy plants. Sequence analysis revealed 80-96% and 84-98% identity at the nucleotide and amino acid level, respectively, with other BBrMV isolates. Previously BBrMV was confined to southern India and was not reported from NER of India where wild progenitors of cultivated banana are believed to have originated. The virus should be contained before it can spread into banana germplasm resources in the NER of India and other banana producing countries where BBrMV is a quarantine pathogen. To the best of our knowledge, this is the first record of BBrMV infection in the NER of India.

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