Poster Presentation 1

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# A new *Pythium* species causing lettuce wilt

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**Purpose:** In 2016, the lettuce showing in the above-ground and root rot was observed in a lettuce field in Kagawa prefecture. An isolate with fast-growing and non-septate hyphae like *Pythium* species was obtained from the root.

**Methods and Results:** The isolate was cultured in a 9 cm petri dish with CMA medium, and after the isolate growth spread throughout, sterilized soil was covered over the colony, and a pre-germinated lettuce seed was sown in the soil. After 7-days incubation in a growth chamber at 25°C in 12-hours photoperiod, the seedlings showed root rot and the isolate was recovered from the root. When the sequence of the rDNA-ITS region was analyzed, it belonged to the molecular phylogenetic clade J of *Pythium* species classified by Levesque and de Cock (2004). Additionally, the nucleotide sequences of coxI, coxII and β-tubulin were examined, and multigene phylogenetic tree was constructed with the other members of clade J, resulting in a single lineage. The morphological characteristics of the isolate were confirmed: the sporangia (av. 27.3 um) was spherical, the oogonium (av. 32.5 um) was smooth and spherical, and the oospore (av. 27.6 um) was aplerotic. The antheridia were diclinous, and the antheridial cells were clavate and crook-necked. One to three the antheridia were attached per oogonium. Mycelial growth was observed between 5°C and 25°C. These characteristics differed from the other members of clade J.

**Conclusions:** The results indicate that the isolate will be a new *Pythium* species as well as a new pathogen in lettuce.