원문 2012년 4월 충남 태안의 백합시험장 포장에서 재배중인 아시아틱계통에서 정식 5일 후 지제부의 줄기가 갈색으로 변하면서 물러지고 고사하는 증상이 관찰되었다. 피해 규모는 Sunshine 품종의 95% 이상이 발병되어 꽃봉우리가 형성되기 전에 대부분이 썩어서 절화하여 판매할 수 없는 상황으로 조사되었다. 포장에서 채집한 병든잎과 줄기의 병반으로부터 병원균을 순수 분리하여 균학적인 특징과 병원성을 검정하였고, 또한 rDNA의 ITS(internal transcribed spacer) 염기서열을 분석하여 동정하였다. 지금까지 우리나라에 발생하는 백합 병으로는 잎마름병(*Botrytis elliptica*) 등 13종이 보고되어 있으며(The Korean Society of Plant Pathology, 2009), 그 중 세균에 의한 무름 증상이 나타나는 병으로는*Pectobacterium carotovorum* subsp. *carotovorum*와 *Psudomonas marginalis*에 의한 무름병이 있으나, *Rhizopus orysae*에 의한 무름병 발생은 보고된 것이 없다. 따라서 본 연구는 백합에 발생한 무름병의 증상을 관찰하고 균학적 특성과 병원성을 검정하여 그 결과를 보고한다.

Reference:

http://www.online-rpd.org/journal/view.html?uid=32&sort=&scale=&key=year&keyword=&s_v=20&s_n=1&pn=vol&year=2014&vmd=Full

에디티지 5단계 번역 프로세스 중 1, 2단계는 고객님의 학문 분야에 맞는 학술 전문 번역가가 1차 원문 번역을 진행한 후 번역 리뷰어에 의한 번역본 검토까지 2중 번역으로 철저하게 원문과 대조하여 작업합니다.

원문번역 In April 2012, the following symptoms were observed in Asiatic hybrid lilies growing at Taean Lily Experimental Station in Korea's Chungnam Province: starting five days after planting, the lower stem near the ground turned brown and softened, and the lilies withered. The symptoms were observed in more than 95% of Sunshine breed lilies. Since most lilies rotted and were cut before the formation of flower buds, they were unsellable. The pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. Thus far, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, are reported to occur in South Korea (The Korean Society of Plant Pathology, 2009). Among these, diseases characterized by bacteria-caused soft rot include soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis*. No report of soft rot caused by *Rhizopus orysae* has been made yet. Thus, the present study makes the first report of soft rot caused by *Rhizopus orysae*, together with an examination of the symptoms of soft rot observed in our lilies, the mycological characteristics of the pathogen, and its pathogenicity.

번역본 검토 In April 2012, the following symptoms were observed in Asiatic hybrid lilies growing at Taean Lily Experimental Station in Korea's Chungnam Province: starting five days after planting, the lower stem near the ~~ground~~soil surface turned brown and softened, and the lilies withered. The symptoms were observed in more than 95% of Sunshine breed lilies. Since most lilies rotted and were cut before the formation of flower buds, they ~~were unsellable.~~could not be used commercially. The pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. Thus far, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, ~~are~~have been reported to occur in South Korea (The Korean Society of Plant Pathology, 2009). Among these, diseases characterized by bacteria-caused soft rot include soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis*~~. No~~; however, no report of soft rot caused by *Rhizopus orysae* has been made yet. Thus, the present study makes the first report of soft rot caused by *Rhizopus orysae*, together with an examination of the symptoms of soft rot observed in our lilies, the mycological characteristics of the pathogen, and its pathogenicity.

에디티지 5단계 번역 프로세스 중 3,4,5단계는 고객님의 학문 분야에 맞는 석박사 원어민 에디터 및 리뷰어가 저널에서 요구하는 수준의 영문 원고로 맞추어 드립니다. 프리미엄 교정에서는 논리의 흐름 및 기승전결의 구조까지 점검되며 영문에 한하여 무료 재교정 범위에 충족하는 경우 365일 무료 재교정이 제공됩니다.

프리미엄 교정 To~~hus~~ date~~far~~, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, have been reported to occur in South Korea (The Korean Society of Plant Pathology, 2009). ~~Among these, diseases characterized by bacteria-caused soft rot include~~While bacterial soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis* has been reported; however, there has been no report of soft rot caused by *Rhizopus orysae* ~~has been made yet~~. In April 2012, ~~the following symptoms were observed in~~ Asiatic hybrid lilies growing at the Taean Lily Experimental Station in Korea's Chungnam Province~~:~~ showed symptoms of withering ~~starting~~ five days after planting, with the lower stem near the soil surface turning~~ed~~ brown and soft~~ened, and the lilies withered~~. These symptoms were observed in more than 95% of the Sunshine-variety~~breed~~ lilies.

~~Since~~ Because most lilies rotted and were cut before the ~~formation of~~ flower buds had formed, they could not be used commercially. The bacterial pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. ~~Thus far, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, have been reported to occur in South Korea (The Korean Society of Plant Pathology, 2009). Among these, diseases characterized by bacteria-caused soft rot include soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis;* however, no report of soft rot caused by *Rhizopus orysae* has been made yet.~~ This~~us, the present~~ paper ~~study makes~~ reports for the first time the ~~first report of~~ soft rot caused by *Rhizopus orysae*~~;~~ it also ~~together with~~ presents the results of an examination of the symptoms of soft rot observed in ~~our~~ the lilies, the mycological characteristics of the pathogen, and its pathogenicity.

최종 검토 To date, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, have been reported in South Korea (The Korean Society of Plant Pathology, 2009). While bacterial soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis* has been reported, there has been no report of soft rot caused by *Rhizopus orysae*. In April 2012, Asiatic hybrid lilies growing at the Taean Lily Experimental Station in Korea's Chungnam Province showed symptoms of withering five days after planting, with the lower stem near the soil surface turning brown and soft. These symptoms were observed in more than 95% of the Sunshine-variety lilies. Because most lilies rotted and were cut before the flower buds had formed, they could not be used commercially. The bacterial pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. This paper reports for the first time the soft rot caused by *Rhizopus orysae*; it also presents the results of an examination of the symptoms of soft rot observed in the lilies, the mycological characteristics of the pathogen, and its pathogenicity.

일반교정 In April 2012, the following symptoms were observed in Asiatic hybrid lilies growing at the Taean Lily Experimental Station in Korea's Chungnam Province: starting from five days after planting, the lower stem near the soil surface turned brown and softened, and the lilies withered. These symptoms were observed in more than 95% of the Sunshine-variety~~-breed~~ lilies. ~~Since~~ Because most lilies rotted and were cut before the ~~formation of~~ flower buds had formed, they could not be used commercially. The bacterial pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. Thus far, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, have been reported ~~to occur~~ in South Korea (The Korean Society of Plant Pathology, 2009). Among these, diseases characterized by bacterial~~-caused~~ soft rot include soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis;* however, ~~no report of~~ soft rot caused by *Rhizopus orysae* has not been ~~made~~ reported yet. Thus, the present ~~study~~ paper ~~makes~~ is the first report of soft rot caused by *Rhizopus orysae*~~;~~ ~~together~~ it also presents the results of ~~with~~ an examination of the symptoms of soft rot observed in ~~our~~ the lilies, the mycological characteristics of the pathogen, and its pathogenicity.

최종검토 April 2012, the following symptoms were observed in Asiatic hybrid lilies growing at the Taean Lily Experimental Station in Korea's Chungnam Province: starting from five days after planting, the lower stem near the soil surface turned brown and softened and the lilies withered. These symptoms were observed in more than 95% of the Sunshine-variety lilies. Because most lilies rotted and were cut before the flower buds had formed, they could not be used commercially. The bacterial pathogen was isolated from lesions in rotten leaves and stems collected from the station, and its mycological characteristics and pathogenicity were examined. The sequence of the ribosomal DNA (rDNA) internal transcribed spacer (ITS) was also analyzed to identify the pathogen. Thus far, 13 lily diseases, including leaf blight caused by *Botrytis elliptica*, have been reported in South Korea (The Korean Society of Plant Pathology, 2009). Among these, diseases characterized by bacterial soft rot include soft rot caused by *Pectobacterium carotovorum* subsp. *carotovorum* and *Psudomonas marginalis;* however, soft rot caused by *Rhizopus orysae* has not been reported yet. Thus, the present paper is the first report of soft rot caused by *Rhizopus orysae*; it also presents the results of an examination of the symptoms of soft rot observed in the lilies, the mycological characteristics of the pathogen, and its pathogenicity.