

β チューブリン遺伝子の塩基配列を調べたが、感性菌との違いはなかった。

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(38) Qu, P., Yamashita, K., Toda, T.*, Kubota, M. and Hyakumachi, M. **High Occurrence of New Somatic Compatibility Groups by Tuft Formation among Single-basidiospore Isolates from Different Field Isolates or between Single-basidiospore Isolates and Their Non-parent Field Isolates in *Thanatephorus cucumeris* AG 1-IC** All single-basidiospore isolates (SBIs) obtained from each of three field isolates, 189, Rh28 and 1R4, of *Thanatephorus cucumeris* AG 1-IC were heterothallic, and were divided into two different mating types, respectively. Tufts were formed among SBIs from same field isolates (A) or different field isolates (B). Tufts were also formed among SBIs and their parent (C) or non-parent field isolates (D). AFLP phenotypes showed that tuft isolates had common and specific bands from both paired SBIs or from paired SBIs and field isolates, implying they are heterokaryons. Somatic incompatibility reactions were observed among tuft and field isolates. New somatic compatibility groups (SCGs) which were different from parent field isolates occurred following tuft (heterokaryon) formations. The frequencies of occurrence of new somatic compatibility groups were 15.4~27.3%, 62.5~90.9%, 11.1~25.0% and 100% in the tuft isolates obtained from A, B, C and D, respectively. Compared to A and C tuft isolates, B and D tuft isolates which originated from different field isolates showed high occurrence frequency of new SCGs.

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(39) Mwafaid, J. M.*, Tsuji, T., Kubo, N., Kubota, M. and Hyakumachi, M. **Selective Accumulation of *Trichoderma* Species in Damping-off Disease Suppressive Soil after Repeated Inoculations with *Rhizoctonia solani*, Binucleate *Rhizoctonia* and *Sclerotium rolfsii*** Disease decline in radish damping-off was induced by repeated inoculations with *Rhizoctonia solani*, binucleate *Rhizoctonia* and *Sclerotium rolfsii* in pot systems using Yanagido soil. Species of *Trichoderma* were consistently isolated from the inoculated soils showing disease suppression. Populations of different *Trichoderma* spp. accumulated selectively in relation to the soil pathogen inoculated. Occurrence frequencies of *T. viride*, *T. harzianum* and *T. hamatum* were 3:1:1 and 3:2:1 for *R. solani* and binucleate *Rhizoctonia* treatments, respectively.

In *S. rolfsii* inoculated soil, *T. koningii* was predominantly isolated. *T. viride*, *T. harzianum* and *T. hamatum* isolates obtained from both *R. solani* and binucleate *Rhizoctonia* repeatedly inoculated soil suppressed radish damping-off disease caused by *R. solani* and *S. rolfsii* at varied levels. Among them, isolates of *T. viride* consistently showed high suppression. However, isolates of *T. koningii* obtained from *S. rolfsii* inoculated soil, suppressed disease caused by *S. rolfsii* only but failed to suppress disease caused by *R. solani*. (*UGSAS, Gifu Univ.)

(40) 岡久美子・河崎友紀枝・大西広美・児玉基一朗・尾谷 浩 ニホンナシ枝から分離した内生糸状菌によるナシ黒斑病菌感染抑制効果 Oka, K., Kawasaki, Y., Ohnishi, H., Kodama, M. and Otani, H.: Suppressive Effect of Fungal Endophytes Isolated from Shoots of Japanese Pear on Infection of Black Spot Pathogen of Japanese Pear 各種ニホンナシ品種の越冬枝には、ナシ黒斑病菌の感染阻害物質を生産する内生糸状菌が多数存在した。これら感染阻害物質生産菌のいくつかは *Chaetomium globosum* と同定され、ナシ品種が黒斑病感受性かどうかに関わりなくすべての品種から分離された。これら *C. globosum* の培養ろ液はいずれも黒斑病菌の孢子発芽および付着器形成には影響せず、宿主特異的 AK 毒素生産を阻害した。また、AK 毒素生産に対する培養ろ液の作用は AK 毒素の不活化ではなく、生成または分泌阻害によることが示唆された。なお、培養ろ液はリンゴ斑点落葉病菌の感染に対しては影響しなかった。培養ろ液中の AK 毒素生産阻害活性は熱に安定で、限外濾過では 3 kDa 以下の画分に検出された。現在、培養ろ液より阻害物質の単離を行っている。一方、*C. globosum* の孢子接種による切り取りナシ葉上での黒斑病菌感染の抑制作用を調べると、*C. globosum* の孢子を一日以上前接種した場合にのみ抑制が認められた。本抑制作用が AK 毒素生産の阻害によるのかどうかについて検討中である。

(鳥取大農)

(41) 竹原利明・井上博喜・宮川久義 カラシナを用いた還元土壌消毒によるトマト萎凋病の防除 Takehara, T., Inoue, H. and Miyagawa, H.: Control of Fusarium Wilt of Tomato by Reductive Soil Disinfestation Using *Brassica juncea* 抗菌物質アリルイソチオシアネートを生じるカラシナ (*Brassica juncea*) を有機物として用いた還元土壌消毒法の開発を目的とし、以下の試験を行った。ビニルハウス内土壌(灰色低地土)にトマト萎凋病菌 (*Fusarium oxysporum* f. sp. *lycopercisi*) レース 2 の *nit* 変異株を混和接種して作成した汚染圃場に、カラシナ(品種: 黄からし菜)の茎葉を 5 kg/m² 鋤き込み、透明ポリエチレン被覆下