PERAN *Trichoderma reesei* E. G. Simmons PADA PENGENDALIAN *Damping-off* SEMAI CENDANA (*Santalum album* LINN.)

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INTISARI

Semai cendana yang ditanam di persemaian Balitbang Kehutanan NTT mengalami kerusakan, diantaranya 20 % semai terserang *damping-off* (=lodoh). Pengendalian hayati telah dikembangkan sebagai alternatif metode pengendalian terhadap penyakit jamur tanah untuk mengurangi kerusakan pada lingkungan. Salah satu agen pengendali hayati yang memiliki potensi antagonistik tinggi terhadap patogen tular tanah adalah *Trichoderma* spp. Tujuan penelitian ini adalah untuk mengetahui penyebab lodoh pada semai cendana dan pengaruh aplikasi *T. reesei* dalam mengendalikan lodoh pada semai cendana.

Prosedur penelitian yang dilakukan, meliputi : (1). isolasi semai cendana yang sakit dari NTT dan isolasi sampel tanah dari NTT, (2). uji Postulat Koch pada semai cendana, (3). uji antagonistik *T. reesei* secara *in vitro* dan (4). uji efektivitas *T. reesei* terhadap perkembangan *Fusarium* sp. secara *in vivo*.

Hasil penelitian menunjukkan bahwa lodoh pada semai cendana disebabkan oleh *Fusarium* sp.. *T. reesei* secara *in vitro* mempunyai kapasitas penghambatan sebesar 100 % terhadap *Fusarium* sp. Aplikasi *T. reesei* sebagai agen pengendali hayati untuk pengendalian *Fusarium* sp. menunjukkan efektivitas yang cukup tinggi. Persentase serangan lodoh semai cendana yang ditanam pada kompos + *T. reesei* sebesar 5 %, sedangkan pada kompos tanpa *T. reesei*, pasir tidak steril dan sampel tanah dari NTT sebesar 30 %, 35 % dan 65 %.

Kata kunci : semai cendana, *T. reesei* , lodoh

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THE ACTOR OF *Trichoderma reesei* E. G. Simmons ON THE *Damping-off* CONTROL OF THE SANDALWOOD SEEDLING (*Santalum album* LINN.)

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ABCTRACT

The sandalwood seedling has been planted on the nursery of Balitbang Kehutanan NTT to experience the destruction is about 20 %, seedling is attacked by *damping-off* (=lodoh). Biological control has been developed as alternate method against soil born diseases to eliminate damage on the environment. One of the biological agents having high antagonistic potential against soil born pathogen is *Trichoderma* spp. The direction of experiment to search the cause of lodoh on the sandalwood seedling and the application influences *T. reesei* on the control lodoh in the sandalwood seedling.

The procedur experiment has been done, involving : (1). isolation the sandalwood seedling of painful from NTT and isolation soil example from NTT, (2). Postulat Koch test on the sandalwood seedling, (3). antagonistic test of *T. reesei* in vitro and (4). effectiveness test of *T. reesei* against developing *Fusarium* sp. in vivo.

The result indicated that lodoh on the sandalwood seedling caused by *Fusarium* sp.. *T. reesei* in vitro inhibited *Fusarium* sp. at average of 100 % accordingly. The application of *T. reesei* as biological control agent against *Fusarium* sp. showed high effectivity. The attact percentage of lodoh on sandalwood seedlings showed that the lowest one was growth on compos formulated with *T. reesei* (5 %), whereas seedlings growth on compos without *T. reesei*, unsteril sands and soil samples from NTT were 30 %, 35 % and 65 %.

Key word : Sandalwood seedling, *T. reesei*, lodoh

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