

## Pengujian kemampuan rhizopus azygosporus UICC 539 dalam mendegradasi skimmed milk 1% dan 2% pada berbagai suhu = Skimmed milk-degrading ability of rhizopus azygosporus UICC 539 at various temperatures.

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### Abstrak

Penelitian ini bertujuan untuk menguji kemampuan *R. azygosporus* UICC 539 dalam mendegradasi skimmed milk 1% (b/v) dan 2% (b/v) di suhu 30, 35, 40, 45, dan 50, 55, dan 60C. Blok agar (diameter 6 mm) mengandung 106 sel/mL *R. azygosporus* (umur 5 hari, pada Potato Sucrose Agar, PSA, di suhu 30C) digunakan untuk pengujian. Blok agar berisi biakan ditumbuhkan pada Czapek Dox Agar (CDA) modifikasi tanpa sumber karbon yang telah ditambahkan skimmed milk 1% (b/v) dan 2% (b/v) serta Victoria Blue 20% (b/v) sebagai indikator. Medium CDA modifikasi berisi blok agar diinkubasi selama 5 hari di suhu 30, 35, 40, 45, dan 50, 55, dan 60C. Medium CDA modifikasi tanpa kapang sebagai medium kontrol. Indikasi degradasi skimmed milk oleh *R. azygosporus* UICC 539 ditunjukkan dengan terbentuknya zona bening di sekitar koloni. Kemampuan kapang mendegradasi skimmed milk dinyatakan dengan nilai Enzymatic Index (EI). Nilai EI dihitung menggunakan rumus  $R/r$ , yaitu R adalah diameter zona bening dan r adalah diameter koloni. Hasil menunjukkan *R. azygosporus* UICC 539 mendegradasi skimmed milk 1% dan 2% dengan terbentuknya zona bening. Kemampuan *R. azygosporus* UICC 539 mendegradasi skimmed milk dipengaruhi oleh variasi konsentrasi substrat dan suhu inkubasi, yang ditunjukkan dengan nilai Enzymatic Index (EI) yang bervariasi.

.....This study aims to test the ability of *R. azygosporus* UICC 539 to degrade 1% (w/v) and 2% (w/v) skimmed milk at 30, 35, 40, 45, dan 50, 55, and 60C. Agar block (6 mm diameter) containing 106 cells/mL of *R. azygosporus* (5 days old, on Potato Sucrose Agar, PSA at 30C) was used for the test. Fungi on the agar blocks were grown on modified Czapek Dox Agar (CDA) without a carbon source with the addition of 1% (w/v) or 2% (w/v) skimmed milk and Victoria Blue 20% (w/v) as an indicator. Modified CDA plates containing agar blocks were incubated at 30, 35, 40, 45, and 50, 55, and 60C for 3 and 5 days. Modified CDA without the fungus served as a control medium. Indication of skimmed milk degradation by *R. azygosporus* UICC 539 was shown by the formation of a clear zone around the colony. The ability of *R. azygosporus* UICC 539 to degrade skimmed milk was expressed by the Enzymatic Index (EI) value. The value was calculated using the formula:  $R/r$ , where R was the diameter of the clear zone and r was the diameter of the colony. The results showed that *R. azygosporus* UICC 539 degraded 1% and 2% skimmed milk by forming clear zones. Skimmed milk-degrading ability of *R. azygosporus* UICC 539 was influenced by variation of substrate concentrations and various incubation temperatures, resulting in differences of Enzymatic Index (EI) values.