

Determination of Urease Biochemical Properties of Asparagus Bean (*Vigna unguiculata ssp sesquipedalis* L.)

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| Publons ID | 17899308 |
| Wos ID | WOS:000452032100073 |
| Doi | 10.1088/1757-899X/349/1/012073 |
| Title | Determination of Urease Biochemical Properties of Asparagus Bean (<i>Vigna unguiculata ssp sesquipedalis</i> L.) |
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| Publish Date | 2018 |
| Journal Name | 12TH JOINT CONFERENCE ON CHEMISTRY |
| Citation | 2 |
| Abstract | <p>Urease is enzyme that plays a role in nitrogen metabolism during plant germination. Plants that produce a lot of urease are grains. This study used asparagus bean as source of urease. The purpose of this research is to learn the effect of germination time on the activity of urease enzyme from asparagus bean and its biochemical properties. The research was started by germination of asparagus bean on day 2, 4, 6, 8, 10 and 12. Asparagus bean sprouts were extracted using acetone and separated by centrifugation to obtain the crude extract of urease. The biochemical properties of the crude extract of urease was further determined including: the effect of temperature, pH, substrate concentration, and metal addition to urease activity. The urease activity is determined by the Nessler method. The germination time of asparagus bean in yielding urease enzyme reached the optimum activity on the 8th day with activity value of 593.7 U/mL. The biochemical properties of urease from asparagus bean have optimum activity at 35 degrees C, pH 7.0 and substrate concentration 0.125% with activity value of 600 U/mL. Addition of CaCl₂, SnCl₂ and ZnCl₂ metals decrease the activity of urease.</p> |
| Publish Type | Book in series |
| Publish Year | 2018 |
| Page Begin | (not set) |
| Page End | (not set) |
| Issn | 1757-8981 |
| Eissn | |
| Url | https://www.webofscience.com/wos/woscc/full-record/WOS:000452032100073 |
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