

## Phytobiotic Properties of Garlic, Red Ginger, Turmeric and Kencur in Growing Ducks

<b>Title</b>	Phytobiotic Properties of Garlic, Red Ginger, Turmeric and Kencur in Growing Ducks
<b>Author Order</b>	of
<b>Accreditation</b>	
<b>Abstract</b>	<p>Abstract. Phytobiotic properties of garlic (<i>Allium sativum</i>), turmeric (<i>Curcuma domestica</i>), red ginger (<i>Zingiber officinale</i>) and kencur (<i>Kaempferia galangal</i>) were studied using standard in vitro antibacterial test and in vivo feeding trial with ducklings. In the in vitro experiment, potency of aqueous extract of these phytobiotic agents were tested against <i>Salmonella pullorum</i> and <i>Escherichia coli</i>. Feeding trial was carried out for 6 week starting at day 28 using ducklings fed diets supplemented with 1% of each of four phytobiotic agents. The highest antibacterial activity against <i>S. pullorum</i> and <i>E. coli</i> was observed with garlic and no additive effect when mixture of phytobiotics was used. Weight gain, feed intake and feed conversion ratio of ducklings were not affected by inclusion of garlic, red ginger and kencur. However, 1% turmeric supplementation significantly reduced growth performance to ducklings.</p> <p>Key words: phytobiotic, antibiotic, duck, medicinal plants</p> <p>Abstrak. Penelitian karakteristik fitobiotik dari bawang putih (<i>Allium sativum</i>), kunyit (<i>Curcuma domestica</i>), jahe merah (<i>Zingiber officinale</i>) dan kencur (<i>Kaempferia galangal</i>) telah dilakukan secara in vitro melalui uji aktivitas antibakteri dan secara in vivo dengan perlakuan suplementasi fitobiotik didalam pakan anak itik. Pada percobaan in vitro, potensi aktivitas antibakteri dari ekstrak fitobiotik diuji menggunakan <i>Salmonella pullorum</i> and <i>Escherichia coli</i>. Percobaan suplementasi fitobiotik diberikan masing-masing sebesar 1% didalam pakan anak itik. Pemberian pakan perlakuan dilakukan selama 6 minggu, dimulai pada saat anak itik berumur 28 hari. Hasil penelitian menunjukkan aktivitas antibakteri terhadap <i>S. pullorum</i> dan <i>E. coli</i> paling tinggi adalah ekstrak bawang putih dan tidak ada pengaruh yang lebih baik apabila dicampur dengan ekstrak fitobiotik lainnya. Pertambahan bobot badan, konsumsi pakan dan konversi pakan anak itik tidak dipengaruhi oleh penambahan bawang putih, kunyit, jahe merah dan kencur. Akan tetapi, suplementasi kunyit nyata menurunkan performan pertumbuhan anak itik. Kata kunci: fitobiotik, antibiotik, itik, tanaman obat-obatan.</p>
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