

In Vitro Safety & Quality Analysis on Three Tongkat Ali Plants & In Vivo Elevation of Testosterone in Fowls

*Sharifah Aminah.T.S**, *Vejayan.J** and *Yasmin Amirah.C.Y*

Faculty of Industrial Science and Technology, Universiti Malaysia Pahang, 26300 Gambang, Pahang, Malaysia

*Corresponding authors: sh.aminahtnsaid@yahoo.com, jayavejayan@ump.edu.my

Abstract

Eurycoma longifolia (EL), *Polyathia bullata* (PB), and *Stema tuberosa* (ST) are three species of plants sharing the synonym of "Tongkat Ali" and commonly known as Tongkat Ali Putih, Tongkat Ali Hitam, and Tongkat Ali Merah, respectively. The roots of the plants were encapsulated and given to fowls. Before being tested on animals, the capsules' content was analyzed on a few safety and quality parameters, i.e., pH and moisture tests, heavy metal content, microbial load, and steroid presence. 12 mg of each Tongkat Ali powder included in a capsule was given to fowls for 30 days. The outcome showed an increase in testosterone in fowls with the highest value of 9.73 ± 1.20 nmol/L obtained by PB, followed by EL and ST, 7.70 ± 0.59 nmol/L, and 6.25 ± 0.70 nmol/L, respectively. The Tongkat Ali plants were concluded to be safe in vitro and able to boost the male hormone in vivo.

Keywords: Tongkat ali; Aphrodisiac; Testosterone; Fowls.