



EFFECT OF LEMON (*CITRUS LIMON* L.) ADDITION TO *Pluchea indica* Less BEVERAGE

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ABSTRACT

This study was conducted with the aim of estimating quantitative changes in physicochemical, and sensory properties, antioxidant and antidiabetic activities of *Pluchea indica* Less leaves beverage caused lemon juice addition. The previous research has showed that the drink of 2 g dried pluchea leaves powder has the highest sensory acceptance but it owns the lowest antioxidant activity. The phytochemical contents of lemon juice expected can increase the antioxidant activity of this beverage. The lemon juice at various concentrations (0, 1, 2, 3, 4, and 5 % v/v) was added in 100 mL of hot water (~95°C) extract for 5 min from dried *Pluchea* leaves powder in tea bag packaging. Parameters were tested physicochemical properties including turbidity, color, pH, total acid; antioxidant and antidiabetic activities and sensory properties comprising taste, color, and aroma. The results showed that the addition of lemon juice at various concentration can increased turbidity, lightness, total acid, total phenolic content, total ascorbic acid, total flavonoid, antioxidant activity and antidiabetic activity and decreased pH of beverages. The existence of phytochemical compounds of beverage from lemon juice and *pluchea* leaves gave to contribute the interaction of their constituents that were influenced to physicochemical and sensory properties, antioxidant and antidiabetic activities. This case study, it estimated that the organic acid content, especially citric acid and ascorbic acid from lemon juice could hydrolyze of glycoside bond or ester bond of phytochemical compounds in hot water extract of *Pluchea* leaves that could increase antioxidant and antidiabetic activities.