

## INTISARI

Sambung nyawa (*Gynura procumbens* (Lour.) Merr.) telah banyak digunakan secara tradisional untuk pengobatan. Usaha budidaya tanaman sambung nyawa telah dilakukan di Kebun Gama Giri Mandiri, Mangunan, Yogyakarta pada tiga area yang berbeda yaitu Watu Balung, Piat dan Gligir. Ketiga lokasi tersebut memiliki karakteristik lingkungan tumbuh yang berbeda-beda. Penelitian ini bertujuan untuk mengetahui pengaruh lingkungan tumbuh (ketinggian, suhu, pH tanah, kelembapan udara, intensitas cahaya dan kelembapan tanah) dan maturasi daun terhadap kadar flavonoid, fenolik dan kaemferol simplisia daun sambung nyawa.

Sampel daun sambung nyawa diambil dari area Watu Balung, Piat dan Gligir di plot yang telah ditetapkan. Data lingkungan tumbuh diambil dengan metode acak sederhana pada masing-masing lokasi. Simplisia daun sambung nyawa dianalisis parameter non-spesifik dan spesifiknya. Kadar fenolik total dan flavonoid total dianalisis spesifik dengan spektrofotometri. Kadar fenolik total dinyatakan sebagai ekuivalen asam galat (EAG) dan flavonoid total dinyatakan sebagai ekuivalen kuersetin (EK). Kandungan Kaemferol dianalisis dengan KLT-densitometri. Data lingkungan tumbuh dan maturasi akan dibandingkan signifikasinya dengan Anava satu jalan dengan taraf kepercayaan 95%, korelasi *Pearson Product Moment* dan koefisien determinasi dengan *SPSS 22.0*. Hubungan antara lingkungan tumbuh dan maturasi, dengan kadar flavonoid total, fenolik total dan kaemferol hasil analisis korelasi *Pearson* dinyatakan dengan koefisien korelasi ( $r$ ).

Hasil penelitian ini menunjukkan lingkungan tumbuh mempengaruhi kadar flavonoid total simplisia sambung nyawa. Lingkungan tumbuh yang mempengaruhi flavonoid total yaitu kelembapan udara ( $r=0,653$ ), pH tanah ( $r=0,650$ ), kelembapan tanah ( $r=-0,582$ ), intensitas cahaya matahari ( $r=-0,550$ ) dan ketinggian tumbuh ( $r=0,635$ ). Lingkungan tumbuh berkorelasi lemah dan sangat lemah dengan kadar fenolik total dan kaemferol sambung nyawa ( $r < 0,05$  atau  $< -0,5$ ). Kadar flavonoid total terbesar yaitu pada simplisia sambung nyawa Gligir tua ( $0,36 \pm 0,003$  %b/b EK), kadar fenolik tertinggi pada simplisia sambung nyawa Watu Balung tua ( $0,12 \pm 0,010$  %b/b EAG) sedangkan kadar kaemferol tertinggi pada Piat muda ( $4894,51 \pm 1918,165$  %b/b). Kadar fenolik ( $r=-0,867$ ) dan kadar kaemferol ( $r=0,687$ ) berkorelasi dengan golongan maturasi sedangkan kadar flavonoid total tidak berkorelasi dengan golongan maturasi ( $r=-0,151$ ). Perbedaan kadar flavonoid, fenolik dan kaemferol dapat disebabkan oleh berbagai faktor yang mempengaruhi tanaman sambung nyawa.

**Kata kunci:** sambung nyawa, maturasi, lingkungan tumbuh

## ABSTRACT

Sambung nyawa (*Gynura procumbens* (Lour.) Merr.) has been used traditionally for treatment. The cultivation of crops sambung nyawa has been done in Gama Mandiri Giri, Mangunan, Yogyakarta in three different areas; Watu Balung, Piat and Gligir. Each locations have different enviromental characteristics. This study aims to determine the effect of growing environment (altitude, temperature, pH, humidity, light intensity and soil moisture) and maturation of the levels of flavonoids, phenolic and kaempferol in sambung nyawa leaves.

Samples taken from each area in the plot that has been set. Growing environmental data retrieved by simple random method in each location. Total phenolic and flavonoid content of total analyzed by spectrophotometry. Total phenolic concentration is expressed as Gallic Acid Equivalents (EAG) and total flavonoid concentration is expressed as an Quercetin Equivalent (EK). The content of kaempferol were analyzed by TLC-densitometry. Growing enviroment data and maturation chategory will analyzed using one-way-ANOVA with 95% confidence level, Pearson Product Moment correlation and coefficient determination with SPSS 22.0 for windows. The relationship between growing enviroment and maturation, with the total flavonoid content, total phenolic content and kaempferol is expressed by the correlation coefficient (r).

The result shows that the growing environment affects the total flavonoid content in sambung nyawa leaves. Growing environment such as; humidity ( $r = 0.653$ ), soil pH ( $r = 0.650$ ), soil moisture ( $r = -0.582$ ), light intensity ( $r = -0.550$ ) and altitude ( $r = 0.635$ ) affecting total flavonoid content. Total phenolic content and kaempferol in sambung nyawa corralated very weak with growing enviroment ( $r < 0.05$  or  $< -0.5$ ). The largest total flavonoid levels found in Gligir area with old cathegory maturation ( $0.36 \pm 0.003\%$  w / w EK), the highest phenolic content of found in samples of sambung nyawa in Watu Balung with old cathegory maturation ( $0.12 \pm 0.010\%$  w/w EAG), while the highest levels of kaempferol found in samples in Piat area with young cathegory maturation ( $4894.51 \pm 1918.165\%$  w/w). Phenolic levels ( $r = -0.867$ ) and kaempferol levels ( $r = 0.687$ ) highly correlated with maturation chategory while total flavonoid levels do not correlate with the maturation chategory ( $r = -0.151$ ). Differences in levels of flavonoids, phenolic and kaempferol can be caused by various factors that affecting sambung nyawa.

**Keywords:** sambung nyawa, maturation, growing environment