

ABSTRAK

PEMBUATAN PEWARNA TEKSTIL ALAMI DARI KULIT DAN BIJI TERONG BELANDA (*Chypomandra betacea*)

(Nyayu Febrina Nuraini, 2025, 45 Halaman, 10 tabel, 8 Gambar, 4 lampiran)

Industri tekstil saat ini banyak menggunakan pewarna sintetis karena memiliki keunggulan dalam kestabilan warna dan ketersediaannya. Namun, pewarna sintetis dapat menimbulkan dampak negatif terhadap lingkungan dan kesehatan manusia. Ekstrak kulit dan biji terong belanda (*Chypomandra betacea*) mengandung pigmen antosianin berwarna merah yang dapat digunakan sebagai bahan dasar pewarna alami. Tujuan penelitian ini adalah untuk mendapatkan waktu maserasi terbaik dalam pembuatan pewarna tekstil alami dari kulit dan biji terong belanda serta mendapatkan komposisi pewarna tekstil alami pada kulit dan biji terong belanda sebagai pengganti pewarna sintetis yang sesuai dengan SNI ISO 105-A03:2010. Parameter yang diamati, yaitu rendemen, pH, uji warna, uji antosianin, dan kadar antosianin, uji Spektrofotometri UV-Vis, dan uji ketahanan luntur. Hasil penelitian menunjukkan bahwa variasi waktu maserasi berpengaruh signifikan terhadap kualitas ekstrak pewarna tekstil alami dari kulit dan biji terong belanda. Ekstrak pewarna tekstil alami terbaik dari kulit terong belanda diperoleh pada waktu maserasi selama 72 jam, dengan rendemen 14,43%, pH 3, warna *very dark orange (brown tone)*, nilai absorbansi 0,391, kadar antosianin 65,12 mg/L, serta daya tahan luntur terhadap gosokan kering maupun basah pada skala 4-5 (sangat baik). Sedangkan pada biji terong belanda, hasil paling terbaik diperoleh waktu maserasi selama 48 jam, dengan rendemen 13,41%, pH 3, warna *very dark orange (brown tone)*, nilai absorbansi 0,761, kadar antosianin 127,07 mg/L, dan ketahanan luntur terhadap gosokan kering dan basah pada skala 4 (baik).

Kata kunci: *biji terong belanda, ekstraksi maserasi, kulit terong belanda, pewarna tekstil alami.*

ABSTRACT

MAKING NATURAL TEXTILE DYES FROM THE SKIN AND SEEDS OF THE TWINTER EGGPLANT (*Chypomandra betacea*)

(Nyayu Febrina Nuraini, 2025, 45 Pages, 10 Tables, 8 Pictures, 4 Attachments)

*The textile industry currently uses a lot of synthetic dyes because they have advantages in color stability and availability. However, synthetic dyes can have negative impacts on the environment and human health. Extracts of eggplant skin and seeds (*Chypomandra betacea*) contain red anthocyanin pigments that can be used as a base material for natural dyes. The purpose of this study was to obtain the optimum maceration time in the manufacture of natural textile dyes from eggplant skin and seed waste and to obtain the composition of natural textile dyes in eggplant skin and seed waste as a substitute for synthetic dyes in accordance with SNI ISO 105-A03:2010. The parameters observed were yield, pH, color test, anthocyanin test, and anthocyanin content, UV-Vis Spectrophotometry test, and fastness test. The results showed that variations in maceration time had a significant effect on the quality of natural textile dye extracts from eggplant skin and seed waste. The best natural textile dye extract from tamarillo skin waste was obtained at a maceration time of 72 hours, with a yield of 14.43%, pH 3, very dark orange color (brown tone), absorbance value of 0.391, anthocyanin content of 65.12 mg/L, and fastness to rubbing on a scale of 4-5 (very good). While in tamarillo seed waste, the most optimal results were obtained at a maceration time of 48 hours, with a yield of 13.41%, pH 3, very dark orange color (brown tone), absorbance value of 0.761, anthocyanin content of 127.07 mg/L, and fastness on a scale of 4 (good).*

Keywords: *tamarillo seeds, maceration extraction, tamarillo skin, natural textile dye.*