

**ABSTRACT****DETERMINATION OF Caffeine LEVELS IN INSTANT ROBUSTA POWDER  
COFFEE IN BANDUNG REGENCY USING THE VIDEO DENSITOMETRY  
TLC METHOD**

Coffee is known to contain caffeine. Caffeine can increase alertness, insomnia, headaches, nervousness, and dizziness when consumed in excess. Based on the Regulation of the Head of the Food and Drug Supervisory Agency of the Republic of Indonesia No. HK.00.05.23.3644 (2005), the permissible caffeine content is 50 mg per serving. This study aims to analyze the caffeine content in instant robusta coffee powder in Bandung Regency by TLC Video densitometry method. The initial stage of the study was carried out by determining the composition of the mobile phase of a thin layer chromatography (TLC) system using silica gel 60 GF 254 as stationary phase and ultraviolet light 254. The results were analyzed by converting the chromatogram with the best  $R_f$  value using the imageJ application into the area under curve value (AUC) in grading. Validation of analytical methods includes selectivity, linearity, detection limit and quantization limit, accuracy and precision. The results showed that the best mobile phase was ethyl acetate (5ml) and gave a caffeine  $R_F$  of 0.38. The validation parameters of the analytical method met the requirements for determining the level of caffeine in coffee samples. The caffeine levels contained in the coffee samples were 54,410 mg, 54,293 mg, 54,320 mg/package, so they did not meet the recommended requirements.

Keywords: caffeine, coffee, thin layer chromatography, TLC, Video densitometry.