ABSTRAK

Fenbukonazol merupakan fungisida triazol yang banyak digunakan untuk melindungi sereal, buah-buahan, sayuran dan tanaman hias dari bercak daun, karat kuning dan jamur tepung. Tujuan penelitian ini yaitu memvalidasi metode kromatografi cair kinerja tinggi (KCKT) untuk analisis senyawa fenbukonazol dalam sampel fungisida. Adapun tahapan yang dilakukan meliputi optimasi dan validasi metode. Fase diam yang digunakan yaitu kolom Lux® 5µ Amylose-1(250 x 4,6 nm). fase gerak metanol:air (0,2% HCOOH) (95:05, v/v), laju alir sebesar 1,0 mL/menit, volume injeksi sebesar 5µL, panjang gelombang 220 nm. Nilai Rs yang diperoleh sebesar 4,20. Kurva kalibrasi linear pada variasi konsentrasi 50-200 ppm pada puncak 1 diperoleh nilai koefisien determinasi (R^2) sebesar 0,9993, koefisien korelasi (r) sebesar 0,9996, LOD sebesar 6,30 ppm, LOQ sebesar 21,01 ppm, standar deviasi (SD) sebesar 1,88, koefisien variasi (KV) sebesar 1,86% dan HORRAT 0,17. Hasil pada puncak 2 yaitu nilai koefisien determinasi (R^2) sebesar 0,9994 dan koefisien korelasi (r) sebesar 0,9997, LOD sebesar 5,26 ppm, LOQ sebesar 17,52 ppm, SD sebesar 1,25, KV sebesar 1,27%, HORRAT sebesar 0,12. Nilai perolehan kembali (*%recovery)* yang diperoleh sebesar 99,91% dan nilai selektivitas (α) sebesar 2,95. Kadar fenbukonazol yang diperoleh dalam sampel fungisida sebesar 99,73 ppm dengan nilai *%recovery* sebesar 99,37%. Hasil tersebut menunjukkan bahwa metode KCKT terbukti valid dan akurat.

Kata kunci: fenbukonazol, fungisida, KCKT

ABSTRACT

Fenbuconazole is a triazole fungicide which is widely used to protect cereals, fruits, vegetables and ornamental plants from leaf spot, yellow rust and powdery mildew. The aim of this study was to validate High Performance Liquid Chromatography (HPLC) method for the analysis of fenbuconazole compounds in fungicide samples. The steps taken include optimization and validation of the method. The stationary phase used was a Lux® 5µ Amylose-1(250 x 4.6 nm), mobile phase was methanol:water (0.2% HCOOH) (95:05, v/v), flow rate 1.0 mL/menit, injection volume of 5 µL and wavelength at 220 nm. The Rs value obtained was 4.20. The linear calibration curve at various concentrations of 50 – 200 ppm in peak 1 obtained the coefficient of determination (R^2) of 0.9993, a correlation coefficient (r) of 0.9996, LOD of 6.30 ppm, LOQ of 21.01 ppm, standard deviation (SD) of 1.88, correlation variation (KV) of 1.86% and HORRAT of 0.17. The resulted at peak 2 were the coefficient of determination (R^2) 0.9994, a correlation coefficient (r) of 0.9997, LOD of 5.26 ppm, LOQ of 17.52 ppm, SD of 1.25, KV of 1.27% and HORRAT of 0.12. The recovery value (%recovery) obtained was 99.91% and the selectivity value (a) was 2.95. Fenbuconazole levels obtained in the sample fungicide was 99.73 ppm with a %recovery of 99.37%. These results indicate that the HPLC was proved valid and accurate.

Keyword: fenbuconazole, fungicide, HPLC