

INTISARI

Penelitian mengenai kajian kadar Fe dan Si pada tanah dan mata air sangat diperlukan sehingga adanya pengaruh dari pH, tutupan vegetasi, kadar kimia pada tanah, maupun variasi bahan induk tidak dapat dihindarkan. Penelitian yang dilakukan di Sub-DAS Bompon ini dilakukan pada beberapa mata air alami dengan karakteristik yang berbeda-beda sehingga bisa diketahui faktor-faktor yang berhubungan dengan adanya karakteristik tersebut.

Penelitian menggunakan metode survey lapangan dan uji laboratorium. Metode survey lapangan diawali dengan mendata lokasi-lokasi yang terdapat adanya mata air. Wilayah penelitian berada di beberapa Dusun, antara lain Dusun Bleber, Dusun Bompon, Dusun Ngemplak, dan Dusun Tuanan. Pengamatan dilakukan pada setiap mata air dengan metode *purposive sampling*. Sampel pengamatan yang diambil berupa sampel air dan sampel tanah. Sampel air diambil satu titik dengan kedalaman $\pm 20-40$ cm dari permukaan dan sampel tanah diambil dua titik yang representatif yaitu di sekitar daerah sumber mata air. Sampel air dan tanah diambil untuk pengujian laboratorium. Hasil pengukuran air dan tanah di lapangan maupun di laboratorium digunakan untuk menentukan pH, tekstur tanah, kadar kimia yaitu Fe dan Si, pengaruh tegakan vegetasi di sekitarnya. Hasil dibandingkan antara satu tempat dengan tempat yang lainnya. Hasil pengolahan disajikan dalam bentuk grafik dan tabel.

Hasil penelitian menunjukkan bahwa kadar Fe dalam air yaitu 0 mg/g di bawah tegakan yang didominasi oleh bambu dan rumput-rumputan; kadar Fe dalam tanah yang terbesar adalah 4,47 mg/g di bawah tegakan vegetasi bambu serta rumput-rumputan dan yang terendah adalah 0,41 mg/g di bawah tegakan yang didominasi oleh rumput-rumputan. Kadar Si dalam air yang tertinggi adalah sebesar 19,460 mg/g dan kadar Si air terendah sebesar 13,347 mg/g di bawah tegakan yang didominasi oleh rumput-rumputan. Kadar Si dalam tanah tertinggi sebesar 2,16% yang didominasi oleh pohon bambu serta kadar terendah adalah 0% yang didominasi oleh rumput-rumputan. Kadar pH air tertinggi adalah 6,01 dan kadar pH air terendah adalah 5,48. Kadar pH (KCl) tanah tertinggi adalah 5,08 dan kadar terendah adalah 4,11. Kadar pH (H₂O) tanah tertinggi adalah 6,16 dan kadar terendah adalah 5,16. Tekstur tanah pada lokasi penelitian didominasi oleh lempung. Kadar lengas tanah pada sampel 0,5mm yang tertinggi adalah 10,85% dan terendah adalah 4,44%. Kadar lengas tanah pada sampel 2mm yang tertinggi adalah 18,97% dan yang terendah yaitu 5,36%.

Kata kunci: kadar Fe, kadar pH, kadar Si, sub-DAS Bompon.

ABSTRACT

Research on the study of Fe and Si levels in soil and spring waters is very necessary so that the influence of pH, vegetation cover, chemical content in the soil, and variations in parent material cannot be avoided. The research conducted in the Bompon Sub-watershed was carried out on several natural springs with different characteristics so that factors related to these characteristics can be identified.

The research used field survey and laboratory test methods. The field survey method begins by recording locations where there are spring waters. The research area is located in several village, including Bleber Village, Bompon Village, Ngemplak Village, and Tuanan Village. Observations were made at each spring using the purposive sampling method. The observation samples taken were water samples and soil samples. Water samples were taken at one point with a depth of 20-40 cm from the surface and soil samples were taken at two representative points, namely around the spring source area. Water and soil samples were taken for laboratory testing. The results of water and soil measurements in the field and in the laboratory were used to determine pH, soil texture, chemical content, namely Fe and Si, and the influence of vegetation stands in the surrounding area. The results are compared between one place and another. The results of the processing are presented in the form of graphs and tables.

*The results of the study showed that the Fe content in water was 0 mg/g under stands dominated by bamboo and grasses; the highest Fe content in soil was 4.47 mg/g under bamboo and grass vegetation stands and the lowest was 0.41 mg/g under stands dominated by grasses. The highest Si content in water was 19.460 mg/g and the lowest Si content in water was 13.347 mg/g under stands dominated by grasses. The highest Si content in soil was 2.16% which was dominated by bamboo trees and the lowest content was 0% which was dominated by grasses. The highest water pH content was 6.01 and the lowest water pH content was 5.48. The highest soil pH (KCl) content was 5.08 and the lowest content was 4.11. The highest soil pH (H₂O) level was 6.16 and the lowest level was 5.16. The soil texture at the research location was dominated by clay. The highest soil moisture content in the 0.5mm sample was 10.85% and the lowest was 4.44%. The highest soil moisture content in the 2mm sample was 18.97% and the lowest was 5.36%.
Keywords: Fe content, pH content, Si content, Bompon sub-watershed.*