

RINGKASAN

ADI PUTRA GUNANTA. 0910480176. Kajian Kapasitas Air Tersedia pada Lahan Kering di Kecamatan Puncu Lereng Utara Gunung Kelud. Dibawah Bimbingan Soemarno dan Kurniawan Sigit Wicaksono.

Material letusan Gunung Kelud sangat berpengaruh terhadap kualitas tanah untuk budidaya tanaman lahan kering. Material yang tertimbun merupakan bahan kasar berupa pasir dan debu yang mudah terkikis dan hanyut oleh aliran air permukaan (runoff) dan tidak mempunyai kemampuan yang cukup untuk memegang air dan unsur hara.

Tujuan penelitian ini adalah untuk menganalisis (1) kapasitas air tersedia di lahan tegalan pada ketinggian yang berbeda-beda, (2) hubungan antara karakteristik fisika dan kimia dengan kapasitas air tersedia.

Penelitian ini dilaksanakan di lereng utara Gunung Kelud, Kecamatan Puncu, Kabupaten Kediri, pada lima ketinggian tempat, yaitu lokasi T1 = 622 m dpl, T2= 486 m dpl, T3= 385 m dpl, T4 = 303 m dpl, T5 = 274 m dpl. Penelitian ini dilakukan dengan metode survei, pengamatan lapangan: pengolahan tanah, tingkat elevasi, lereng dan deskripsi profil tanah yang meliputi: warna tanah, horizon, struktur, konsistensi, sedangkan pengamatan di laboratorium meliputi: tekstur, berat isi, berat jenis, porositas, kapasitas air tersedia dan c-organik. Deskripsi profil tanah ini dilakukan pada kedalaman 0-35 cm, 35-70 cm, 70-105 cm, 105-130 cm.

Hasil penelitian menunjukkan bahwa tanah di lokasi pengamatan adalah inceptisol, karakteristik tanah yang dominan adalah tekstur lempung berpasir, bobot isi sedang, porositas tinggi, kapasitas air tersedia tinggi dan kandungan c-organik rendah.

Kandungan fraksi pasir dan bobot isi tanah berhubungan negatif terhadap kapasitas air tersedia, semakin tinggi kandungan pasir dan bobot isinya maka kapasitas air tersedia semakin rendah. Porositas tanah berkorelasi positif dengan kapasitas air tersedia, semakin tinggi porositas tanah semakin tinggi juga nilai kapasitas air tersedia. Kapasitas air tersedia beragam di antara lokasi pengamatan, nilai kapasitas air tersedia lebih rendah di lokasi-lokasi yang altitudenya lebih rendah.

Kata kunci: kapasitas air tersedia, altitude, pasir, porositas, bobot isi tanah.

SUMMARY

ADI PUTRA GUNANTA. 0910480176. ADI PUTRA GUNANTA. 0910480176. Study of the Soil Available Water Capacity on Drylands in the Puncu SubDistrict of Northern-Slope of the Mount Kelud. Supervised by Soemarno and Kurniawan Sigit Wicaksono.

Vulcanic materials of the Mount Kelud eruption greatly affect the quality of soil for drylands crop the cultivation. Buried material is abrasive materials such as sand and silt are easily eroded and washed away by the surface runoff and does not have sufficient ability to hold water and nutrients.

Purpose of this study was to analyze (1) capacity of the water available in dryland at different altitudes, (2) relationships between the physical and chemical characteristics with the available water capacity (AWC).

The study was conducted on the northern slopes of Mount Kelud, SubDistrict Puncu, Kediri Regency, on a five-altitude, which are location of T1 = 622 m asl, T2 = 486 m asl, T3 = 385 m asl, T4 = 303 m asl, T5 = 274 m asl. This study was conducted by survey method, field observations are: soil tillage, altitude, degree of slope and soil profile descriptions that include: soil color, horizon, soil structure, soil consistency. Laboratoium analysis include soil texture, bulk density, particle density, soil porosity, available water capacity and c-organic. Description of the soil profile is done at a depth of 0-35 cm, 35-70 cm, 70-105 cm, 105-130 cm.

The results showed that soil at the samples locations are Inceptisols, the dominant characteristics of the soil is a sandy-loam texture, bulk density is medium, high porosity, high available water capacity and the c-organic content is low.

The content of sand fraction and soil bulk density is negatively correlated to the available water capacity, the higher content of the sand and the higher bulk-density resulted in the lower available water capacity. Soil porosity is positively correlated with available water capacity, the higher porosity of the soils are the higher value of their available water capacity. Available water capacity varied among the locations, the available water capacity is lower at the lower altitude.

Keywords: available water capacity, altitude, sand, porosity, bulk density.

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