

INTISARI

Penentuan pola tanam budidaya pertanian biasanya didasarkan pada permintaan pasar terhadap komoditas tertentu. Disisi lain, pola tanam pertanian sangat dipengaruhi oleh iklim yang berdampak kepada ketersediaan air. Pemahaman petani dalam membaca fenomena atau gejala alam yang sedang terjadi saat ini cenderung sulit akibat dari perubahan iklim yang tidak menentu. Penelitian ini bertujuan untuk mengevaluasi kesesuaian pola tanam terhadap ketersediaan air berdasarkan karakteristik iklim dan tanah di lahan pertanian Nawungan.

Metode penelitian yang diterapkan adalah metode survey lapangan. Penelitian dilakukan dengan pendekatan spasial, pendekatan hidrologi, dan pendekatan fisik. Pendekatan spasial untuk menentukan *catchment area* berdasarkan arah dan akumulasi aliran. Pendekatan hidrologi untuk mengetahui ketersediaan air tanah pada lahan berdasarkan data curah hujan dan evapotranspirasi potensial maupun tanaman. Pendekatan fisik dilakukan untuk mengetahui karakteristik tanah dengan pengukuran tekstur, berat volume, berat jenis, porositas, kadar air tanah (pF0, pF 2, pF 2,54, dan pF 4,2), infiltrasi.

Hasil penelitian menunjukkan bahwa zona pola tanam dengan 4 kali masa tanam dan 3 kali masa tanam serta 2 kali masa tanam belum sesuai dengan ketersediaan air tanah yang ada. Zona pola tanam 1,2, dan 3 menempati kelas lereng yang bervariasi yaitu datar, sangat landai, landai, agak curam, dan curam. Karakteristik fisik tanah berupa tekstur *clay*, porositas baik, laju infiltrasi sedang, kadar air tersedia tanah rendah dan bahan organik rendah. Perbandingan ketersediaan air dengan kebutuhan air tanaman mengalami *defisit* untuk semua zona pola tanam dengan selisih paling kecil pada zona pola tanam 3.

Kata kunci: pola tanam, ketersediaan air, evapotranspirasi, kesesuaian

ABSTRACT

Crop patterns determination for agricultural cultivation is usually based on market demand for certain commodities. On the other hand, crop patterns are greatly influenced by climate which has an impact on water availability. Farmers' understanding of reading natural phenomena or symptoms that are currently occurring tends to be difficult due to uncertain climate change. This study aims to evaluate the suitability of cropping patterns for water availability based on climate and soil characteristics in the Nawungan agricultural field.

Research method applied is a survey field method. This research was conducted using spatial approach, hydrological approach, and physical approach. Spatial approach to determine the catchment area based on the direction and accumulation of flow. Hydrological approach to determine the availability of groundwater on land based on rainfall data and potential evapotranspiration and plants. Physical approach to determine soil characteristics by measuring texture, bulk density, particle density, porosity, infiltration, and soil moisture content (pF0, pF 2, pF 2.54, and pF 4.2).

The results showed that cropping pattern zones with 4 cropping periods, 3 cropping periods and 2 cropping periods are not in accordance with the availability of soil water. Cropping pattern zones 1, 2, and 3 occupy a variety of slope classes, namely flat, very gentle, gentle, rather steep, and steep. Soil physical characteristics include clay texture, good porosity, moderate infiltration rate, low soil available water content and low organic matter. Comparison of water availability with plant water requirements is in deficit for all cropping zones with the smallest difference in cropping zone 3.

Keywords: crop patterns, climate change, water availability, suitability