

LEMBAR PENILAIAN KARYA ILMIAH

Nama Penulis dan Peneliti : Afizar, SP.,MP.,Ph.D

Judul Jurnal : Characteristics and potential usage of dissolved Silica
in rice cultivation in Sumani Watershed, Sumatra,
Indonesia

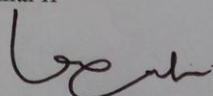
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No	UNSUR YANG DINILAI	BOBOT	SKOR	NILAI
1.	Kesesuaian judul makalah karya ilmiah dengan bidang yang di ampu oleh penulis	30%	30	9
2.	Pemenuhan kaidah penulisan karya ilmiah	30%	30	9
3.	Kebaharuan aspek/masalah yang diteliti	20%	40	8
4.	Struktur penulisan karya ilmiah (Judul, Permasalahan, Metode penelitian/Pemecahan, hasil dan pembahasan, Kesimpulan, daftar pustaka	10%	30	3
5.	Struktur Kalimat dan Bahasa	10%	40	4
	TOTAL	100%		

Tanjungpati, 1 Maret 2016

Penilai II



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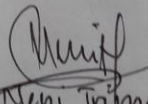
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No	UNSUR YANG DINILAI	BOBOT	SKOR	NILAI
1.	Kesesuaian judul makalah karya ilmiah dengan bidang yang di ampu oleh penulis	30%	40	12
2.	Pemenuhan kaidah penulisan karya ilmiah	30%	30	9
3.	Kebaharuan aspek/masalah yang diteliti	20%	20	6
4.	Struktur penulisan karya ilmiah (Judul, Permasalahan, Metode penelitian/Pemecahan, hasil dan pembahasan, Kesimpulan, daftar pustaka	10%	40	4
5.	Struktur Kalimat dan Bahasa	10%	40	4
	TOTAL	100%		

Tanjungpati, 3 Maret 2019

Penilai I


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Characteristics and Potential Usage of Dissolved Silica in Rice Cultivation in Sumani Watershed, Sumatra, Indonesia

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ABSTRACT

Research on watershed silica dynamics in Indonesia has been sparse as most of the focus on water environment has centred on suspended sediments, nitrogen and phosphorous. Thus, Si concentrations in rivers and their seasonal and spatial variations are not well understood. Silicon helps rice plants to overcome abiotic and biotic stresses by preventing lodging and increasing resistance against pests and diseases. Rice is one of the more important crops in the country, and information on Si concentrations in rivers is useful because river water is a primary irrigation source. In this study, we conducted a preliminary research on temporal and spatial variations in dissolved Si (DSi) concentrations at watershed scale to help achieve an efficient use of Si resources through irrigation water management. The Sumani Watershed, located approximately 50 km east of Padang City in West Sumatra, Indonesia, was selected as the target area. Lake Dibawah lies on the upstream end of the watershed, and water is discharged from the watershed into Lake Singkarak. The results verified that Lake Dibawah had a dam effect of naturally reducing DSi concentrations in water. In addition, the average DSi concentration from the samples obtained from rivers,

small channels, and ditches from October 2013 to December 2014 did not show strong seasonal patterns at each site but revealed clear spatial differences among sub-watersheds linked to the groundwater from Mt. Talang. The watershed has a high capability of supplying DSi to paddy fields via irrigation water.

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