(Azolla filiculoides Lam.) /) // :

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.((Phragmites australis) (Typha latifolia) (Lemna minor) (Salvinia rotundifolia)

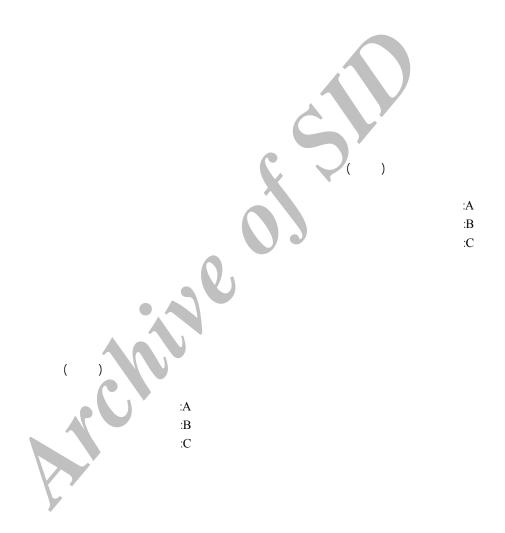
()

() () $ln \quad t_2 \quad \ t_1$ = ln2/RGR $(\mu E.m^{-2}.s^{-1})$ pН

^{&#}x27; Relative Growth Rate

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.(
```

() :A :В :C



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.( ) (RGR)
.(r =% P<%)
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)	RGR(gg ⁻¹ day ¹)	
/	/	1
/	1	/
/	/	1
1	/	/
/	/	1
/	/	1
	/	1
/	/	
/	/	
/	/	/
/	/	1
1	1	1
) RGR(gg ⁻¹ day ¹) / / / / / / / / / / / / /

(P< /)

P<%)

. |

.

()	()	(RGR)	()
	1	1	1
	/		1
		1	1
		1	1
		1	1
		1	1
	10.5	/	
		/	1
	1	/	1
19) /	1	1
		/	/
		/	1

```
/*/
.( )
. (P</->
. (P</->
```

() ()

(P< /)

⁻ Center & Spencer - Aghami & Reddy Ray

() (C :B A

;C ;B ;A

78

(()) .() (a) P<%) .(r =%) ' - Mitchell & Tur ' Zutshi & Vass ' - Ush Rani & Bhambie ' - Finlayson ' - Singh & Yadava - Room
- Watanabe & Berja
Cary & Weerts
- Awad

.() .(.() .() .()

` - Toerien

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An Ecological Investigation into the Excessive Growth of *Azolla* in the Anzali Lagoon and its Control

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Abstract

Azolla filiculoides Lam. is a free-floating weed, which has occupied a vast surface in Anzali lagoon. Excessive growth of Azolla on the surface of Anzali lagoon has not only interfered with the use of the lagoon as a water resource, but has also created ecological and water quality problems. To determine the reasons for Azolla excessive growth, four experiments were undertaken under laboratory conditions, fish pond and Anzali lagoon during years 1999-2000. Experimental results showed that Azolla with a more rapid growth and a lower doubling time was the superior competitor when in competition with Lemna minor. The research revealed that maximum relative growth rate (0.11gg⁻¹ day⁻¹) and minimum doubling time (6.27 days) were observed during May and June respectively. Results indicated that by raising the temperature from 18 to 21 and from 21 to 24C° in 20mg Po4-Pl-1 a significant increase in growth rate and substantial decrease in doubling time were obtained. Experimental results showed that 2 applications of paraquat herbicide with 0.75, 1.25 and 1.5 mg l⁻¹ under laboratory conditions, fish pond and Anzali lagoon, respectively and significantly reduced the biomass (plant dry weight) stopping the growth. The growth rate and doubling time record for Azolla in this investigation illustrates its rapid colonizing ability. Thus, a small amount of Azolla present in the Anzali lagoon has the potential to spread rapidly and cause serious weed problems. The cessation of the sewage inflow to the lagoon and using a contact herbicide such as paraquat with suitable dosage were the necessary steps to significantly reduce Azolla growth.

Keywords: *Azolla filiculoides*, Anzali lagoon, Competition, Doubling time, Temperature, Phosphorus level, Paraquat herbicide

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