

Hordeum Vulgare L.

17/07/2007

27/03/2007

Abstract

This research was carried out to study the effect of aqueous extracts of the residues of two weeds *Avena fatua* L. and *Cyperus rotundus* L. on seed germination and growth of two barley cultivars (Aswad Mahaly, Arevat).

Laboratory experiments were conducted to investigate the effect of aqueous extracts of residues and soils collected from under the weeds on seed germination, plumule and radicle length and their dry weights.

Green house experiments were conducted to study the effect of aqueous extracts on germination and growth of both barley cultivars.

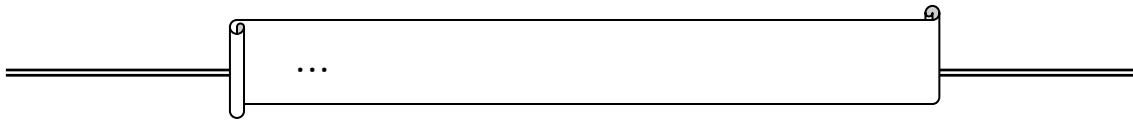
Results of the laboratory experiments showed that the aqueous extracts of *Avena fatua* L. residues caused reduction in seed germination and growth while the aqueous extracts of *Cyperus rotundus* L. increased growth, plumule length and dry weight but caused a little reduction in the radical length and its dry weight in comparison with the control.

Cyperus rotundus L. (Nat grass)

Avena fatua L. (wild oat)

()

()



.()

(2a,2b)

(1)

)

Secondary metabolites

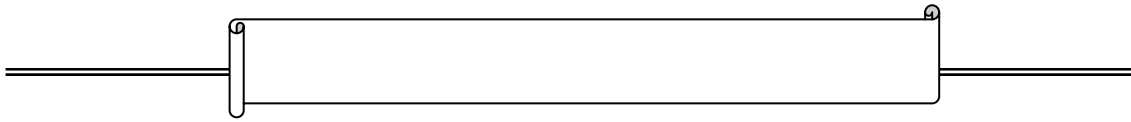
(3)

(4)

(5)

^(6a,6b)Guenezi & McCalla

Avena fatua L.



(7)Porwal &Gupta

Chenopodium L.

(8)Perez & Ormeno

album

. Scopoletin P-hydroxy benzoic acid ,Coumarin, Vanillic acid

Hordeum vulgare L.

)

72 70 (

(20)

() ()

: %2

24 500 10

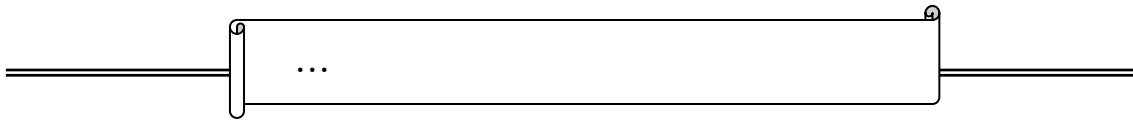
100

(24) 200 ()

:

(25) (13.8)

8 ()



(2 ± 20)

Gallen kamp

(5)

(7)

(2)

(9a,9b)

(72)

(70)

:

$$100 \times (\quad / \quad) =$$

: (%2)

(12)

(15)

10

(1)

%75

(9)

(2± 9)

(2± 24)

:

$$^{(10)}(100 \times \quad / \quad) =$$

60

:

-1

-2

(10)

(0.5)

3

(24)

%95

665)

30

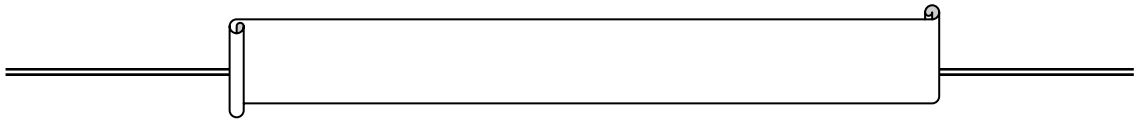
Spectrophotometer PYE

(649

:

()

UNICOM SP600



$$(5.76) - (\quad 665 \quad) (13.7) =$$

$$(\quad) \quad \times (\quad 649 \quad)$$

$$(27.6) - (\quad 649 \quad) (25.8) =$$

$$(\quad) \quad \times (\quad 665 \quad)$$

$$(11) \quad (+)$$

:

$$100 \times \frac{\quad - \quad}{\quad} = \%$$

$$100 \times \frac{\quad - \quad}{\quad} = \%$$

(CRD)

(LSD)

SAS

⁽¹²⁾%5

(1)

)

(

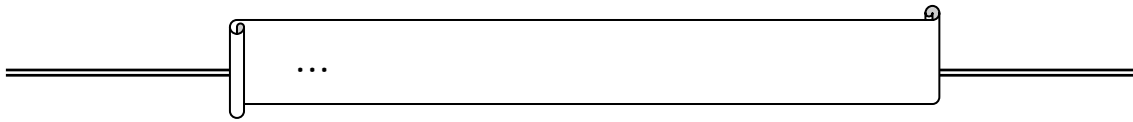
.(\quad)

(%20.45)

(\quad)

(2)

(\quad)



(%27.78)

()

()

(%40.79)

(3)

()

(%35.08)

()

(%30.42)

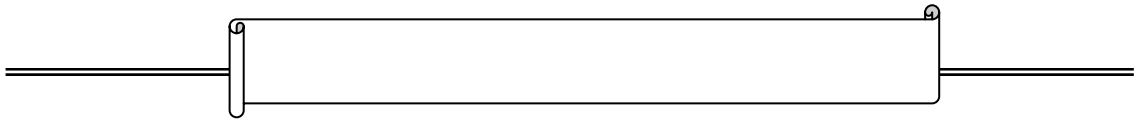
(A B)

()

%5

()

()



(1)

.()

(2)

(13a,13b)

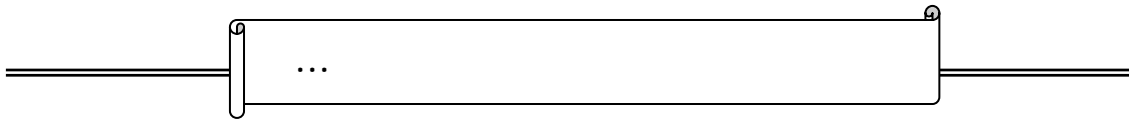
(14)

(15)

(16)

(17)

(18)



(20)

(19)

()

(22,21)

Scopoleletin

(23)

(24)

Komai

.

()

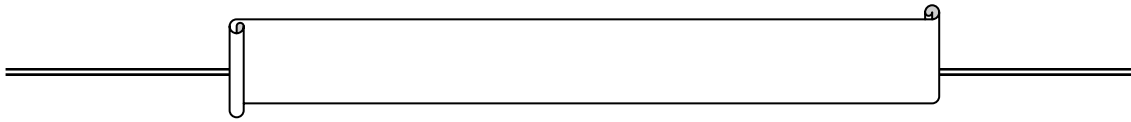
(25)

(27) Chou et al.

(26)

pH

(28)

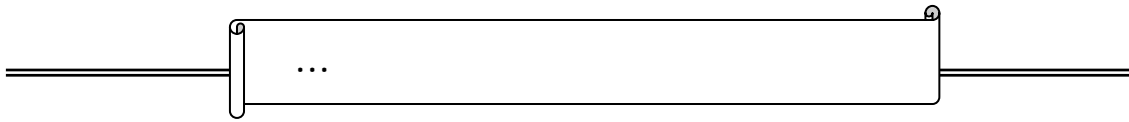


Mg⁺²

(29)

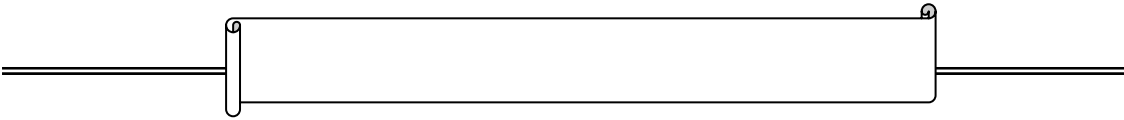
(1)

()	()	()	()			
0.017	0.018	7.85	7.88	75		
0.020	0.024	9.0	8.92	81		
0.024	0.024	9.25	8.81	94	()	
0.0203	0.22	8.7	8.53	83.3		
0.016	0.015	7.15	5.00	70		
0.019	0.022	8.95	7.55	80		
0.023	0.023	10.5	7.22	88	()	
0.019	0.02	8.86	6.59	79.3		
0.0165	0.016	7.5	6.44	72.5		
0.0195	0.023	8.97	8.23	80.5		
0.0235	0.0235	9.87	8.01	91	()	
0.011	0.011	1.6	1.2	2.9	%5	. .
0.013	0.012	1.7	1.2	3.2	%5	. .
0.013	0.014	1.9	1.8	4.8	×) %5	. .
					(



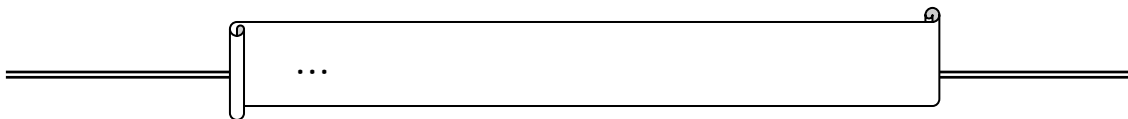
(2)

()	()	()	()			
0.016	0.016	6.78	6.19	70		
0.022	0.028	10.45	8.16	80		
0.0028	0.024	11.45	7.46	95		
0.022	0.0226	9.56	7.27	81.66	()	
0.009	0.012	6.35	4.99	65		
0.011	0.019	8.42	6.25	79		
0.014	0.018	10.12	6.15	90		
0.0113	0.016	8.29	5.79	78	()	
0.012	0.014	6.56	5.59	67.5		
0.016	0.023	9.43	7.2	79.5		
0.021	0.021	10.78	6.8	92.5		
0.011	0.012	1.7	1.5	2.8	%5	. .
0.012	0.013	1.7	1.7	3.1	%5	. .
0.013	0.015	2.1	2.0	4.5	× %5	. .

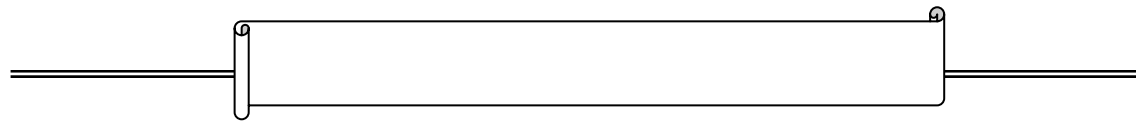


(3)

A+B	B	A	()		()	()			
10.97	4.34	6.12	0.016	0.208	40.6	24	92		
12.53	5.42	7.11	0.0188	0.37	54.3	34.3	95		
12.06	5.14	6.92	0.0168	0.218	49	26.3	98	()	
11.85	4.97	6.716	0.124	0.126	44.7	28.2	95	()	
9.08	3.54	5.45	0.23	0.16	30.43	16.1	90		
11.69	4.94	6.75	0.412	0.188	67	25.9	92		
10.55	4.13	6.42	0.30	0.172	50	24.8	94	()	
10.44	4.23	6.206	0.39	0.173	49.1	22.3	92	()	
10.02	3.94	5.78	0.123	0.184	35.0	20.00	91		
12.11	5.18	6.93	0.31	0.279	60.06	30.1	93.5		
11.30	4.63	6.67	0.234	0.195	49.5	25.50	96	()	
0.14	0.15	0.10	0.04	0.05	4.0	3.5	3.2	%5	. .
0.24	0.25	0.11	0.08	0.09	4.4	4.7	2.5	%5	. .
0.29	0.30	0.13	0.11	0.10	5.5	5	3	× %5	. .



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