

약용작물 율무의 깜부기병 방제를 위한 종자 소독제 개발

권병선, 최승선

Development of Seed Disinfectant for Control of Smut in Job's tears (*Coix lachryma-jobi* var. *mayeun* STAPF)

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연구목적

남부지방에서 율무 재배시 깜부기병 방제를 위한 종자 소독제를 개발하고자 시험하였다.

재료 및 방법

가. 공시재료 : Jinju Local, Namwon Local, Gwangyang Local

공시약제 : 베노밀수화제, 켈탄수화제, 사프롤유제, 에디졸유제, 지오람수화제

파종기 : 5월 1일, 재식밀도 : 60×10cm

시비량(kg/10a) : N-P₂O₅-K₂O = 9-6-6

결과 및 고찰

This study was conducted to evaluate the control effect of seed disinfectant, on control of smut, growth characteristics, and grain yield in the cultivation of Job's tears (*Coix lachryma-jobi* var. *mayeun* STAPF).

All seed disinfectant, treated had no effect on the growth and flowering date of Job's tears *Coix lachryma-jobi* var. *mayeun* STAPF.

The major seed disinfectants were benomyl Wp, 20%, Captan Wp, 50%, Triferine Ec, 17%, Etridia zole Ec, 25%, and Thiopant-mythyl Wp, 50%. Dry yield were increased largely with benomyl Wp, 20% seed disinfectant than the other seed disinfectants and control. All seed disinfectants had no injury with standard dosage. On the other hand all seed disinfectants had slight injury in the double dosage level for the Job's tears (*Coix lachryma-jobi* var. *mayeun* STAPF).

Table 1. Soil properties of the experimental plot at the beginning of experiment.

PH(H ₂ O)	OM (g/kg)	Av.P ₂ O ₅	Ex.cation(molt/kg)			CEC(me/100g)
			K	Ca	Mg	
1:5						
6.4	4.5	382	0.74	3.10	3.9	11.2

Table 2. The control effect of seed disinfectant on brown leaf blight in Job's tears varieties.

Seed disinfectant	Infected plant (%)				Significant difference (DMRT)	Control value (%)
	Junju	Namwon	Gwangyang	Mean±SD		
Benomyl Wp ⁺ . 20% (100g/20ℓ)	1.2	1.4	1.3	1.3±0.2	a	92.7
Captan Wp. 50% (40g/20 ℓ)	1.3	1.4	1.4	1.4±0.3	a	91.1
Triferine Ec. 17% (20ml/20ℓ)	1.4	1.6	1.5	1.5±0.5	a	89.5
Etridiazole Ec ⁺ . 25% (10ml/20ℓ)	1.5	1.7	1.6	1.6±0.6	a	87.7
Thioplanat-mythyl Wp. 50% (20ℓ/20ℓ)	1.6	1.8	1.8	1.8±0.5	a	84.3
Control	13.8	14.7	15.2	14.6±0.6	b	-

Wp⁺ : wettable powder, Ec⁺ : emulsifiable concentrate

Table 3. Comparison of growth characteristics and yield of Job's tears treated with seed disinfectants.

Seed disinfectant		Flowering date	Matruing date	Plant height (cm)	No. of stems	Rate of ripeness (%)	Grain yield (kg/10a)	Yield index
Benomyl Wp ⁺ . 20% (100g/20ℓ)	J	July 3	Sep. 3	191	1.2	76.2	251.5	132
	N	July 3	Sep. 3	186	1.1	75.3	234.9	124
	G	July 3	Sep. 3	182	1.1	74.2	231.8	122
Captan Wp. 50% (40g/20ℓ)	J	July 3	Sep. 3	181	1.2	75.3	242.7	128
	N	July 3	Sep. 3	178	1.1	74.7	226.6	119
	G	July 3	Sep. 3	175	1.1	73.8	221.7	117
Triferine Ec. 17% (20ml/20ℓ)	J	July 3	Sep. 3	172	1.2	74.2	240.3	127
	N	July 3	Sep. 3	168	1.1	73.6	218.4	115
	G	July 3	Sep. 3	162	1.1	72.5	211.5	111
Etridiazole Ec ⁺ . 25% (10ml/20ℓ)	J	July 3	Sep. 3	163	1.2	74.2	233.5	123
	N	July 3	Sep. 3	160	1.1	73.8	211.1	111
	G	July 3	Sep. 3	157	1.1	72.1	200.7	106
Thioplanat-mythyl Wp. 50% (20ℓ/20ℓ)	J	July 3	Sep. 3	159	1.2	72.4	227.4	119
	N	July 3	Sep. 3	157	1.1	72.7	210.0	111
	G	July 3	Sep. 3	153	1.1	71.5	200.0	105
Control	J	July 3	Sep. 3	157	1.2	71.1	218.7	115
	N	July 3	Sep. 3	151	1.1	70.0	200.3	105
	G	July 3	Sep. 3	147	1.1	68.7	189.9	100

J : Junju Local, N : Namwon Local, G : Gwangyang Local

Table 4. Plant injury of Job's tears by application of seed disinfectants.

Seed disinfectant	Standard dosage			Double dosage		
	10 ⁺	20	30	10	20	30
Benomyl Wp ⁺ . 20% (100g/20ℓ)	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1
Captan Wp. 50% (40g/20ℓ)	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1
Triferine Ec. 17% (20ml/20ℓ)	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1
Etridiazole Ec*. 25% (10ml/20ℓ)	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1
Thioplanat-mythyl Wp. 50% (20ℓ/20ℓ)	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1
Control	J 0	0	0	1	1	1
	N 0	0	0	1	1	1
	G 0	0	0	1	1	1

+ Days after apply seed disinfectant

≠ J : Junju Local, N : Namwon Local, G : Gwangyang Local

Plant injury : 0 (No injury),

: 1 (Soft chemical injury)