

약용식물 울무의 잎마름병 방제 약제 선발

권병선

Selecting of Useful Chemicals Reducing of Leaf blight on Job's tears (*Coix lachry-ma-jobi* L. Var.)

Byung Sun Kwon

Sunchon National University, Suncheon 540-742, Korea

연구목적

남부지방 울무재배에서 잎마름병 방제를 위한 약제선발을 하고자 시험하였다.

연구목적

가. 공시품종 : Kwangyang Local, Hadong Local, Gurye Local

나. 공시약제 : 시험성적 참조

다. 처리방법 : 파종기 - 5월 10일,

파종밀도 - 60×10cm 점파

시비량(kg/10a) - N-P₂O₅-K₂O = 9-6-6

라. 시험구배치법 : 난괴법 3반복

결과 및 고찰

This study was conducted evaluate the control effect of fungicides on control of Leaf blight, growth characteristics, and dry yield in the cultivation of Job's tears.

All fungicides treated had no effect on the growth of Job's tears. The major fungicides were mancozeb Wp, 75%, chlorothalonil Wp, 75%, dithianon Wp, 43%, difenoconazole Wp, 10%, benomyl Wp, 50%, and propimeb Wp, 70%. Dry seed yield were increased largely with chlorothalonil Wp, 75% (33g/20 ℓ), fungicide than the other fungicides and control. All fungicides had no injury with standard dosage. On the other hand all fungicides had slight injury in the double dosage level for the Job's tears.

Table 1. The Control effect of fungicides on leaf blight in Job's tears.

| Fungicides | Infected plant(%) | | | | Significant difference (DMRT) | Control value(%) |
|--------------------------------------|-------------------|--------|-------|----------|-------------------------------|------------------|
| | Kwangyang | Hadong | Gurye | Mean±SD | | |
| Mancoveb Wp, 75% (40g/20 ℓ) | 1.1 | 1.2 | 1.6 | 1.2±1.2 | a | 90.7 |
| Chlorothalonil Wp, 75% (33g/20 ℓ) | 1.4 | 1.2 | 1.2 | 1.1±0.1 | a | 91.6 |
| Dithianon Wp, 43% (20 ml/20 ℓ) | 1.5 | 1.8 | 1.8 | 1.5±0.2 | a | 87.5 |
| Difenoconazole Wp, 10% (10g/20 ℓ) | 1.1 | 1.9 | 2.0 | 1.9±0.7 | a | 86.4 |
| Benomyl Wp, 50% (13g/20 ℓ) | 1.2 | 1.2 | 1.3 | 1.2±0.2 | a | 91.1 |
| Propineb Wp, 70% (40g/20 ℓ) | 2.2 | 2.4 | 2.6 | 2.4±1.3 | a | 81.6 |
| Control | 13.3 | 12.0 | 12.3 | 12.3±3.3 | b | - |

Table 2. Chemical injury of Job's tears varieties of applied fungicides.

| Fungicides | | Standard dosage | | | Double dosage | | |
|--------------------------------------|---|-----------------|----|----|---------------|----|----|
| | | 10 ⁺ | 20 | 30 | 10 | 20 | 30 |
| Mancoveb Wp, 75% (40g/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Chlorothalonil Wp, 75% (33g/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Dithianon Wp, 43% (20 ml/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Difenoconazole Wp, 10% (10g/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Benomyl Wp, 50% (13g/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Propineb Wp, 70% (40g/20 ℓ) | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |
| Control | K | 0 | 0 | 0 | 1 | 1 | 1 |
| | H | 0 | 0 | 0 | 1 | 1 | 1 |
| | G | 0 | 0 | 0 | 1 | 1 | 1 |

⁺ Days after the applying fungicides

‡ K : Kwangyang Local, H : Hadong Local, G : Gurye Local

Plant injury : 0 (No injury) - 1 (Soft chemical injury)

Table 3. Comparison of growth characters and yield of Job's tears varieties treated with fungicides.

| Fungicides | Plant | No. of | Rate of | 100 grains | Grain | Index | |
|--------------------------------------|------------|--------|-------------|------------|---------------|-------|-----|
| | height(cm) | grains | ripeness(%) | wt(g) | yield(kg/10a) | | |
| Mancoveb Wp, 75% (40g/20 ℓ) | K | 154 | 57 | 69 | 8.4 | 218 | 156 |
| | H | 151 | 54 | 65 | 8.1 | 215 | 154 |
| | G | 165 | 66 | 73 | 9.1 | 233 | 166 |
| Chlorothalonil Wp, 75% (33g/20 ℓ) | K | 173 | 67 | 75 | 8.7 | 232 | 166 |
| | H | 162 | 65 | 71 | 8.5 | 230 | 164 |
| | G | 184 | 70 | 77 | 9.5 | 242 | 173 |
| Dithianon Wp, 43% (20 ml/20 ℓ) | K | 146 | 60 | 66 | 8.3 | 207 | 148 |
| | H | 144 | 56 | 70 | 8.0 | 201 | 144 |
| | G | 156 | 63 | 74 | 9.0 | 215 | 154 |
| Difenoconazole Wp, 10% (10g/20 ℓ) | K | 142 | 57 | 65 | 8.4 | 196 | 140 |
| | H | 141 | 54 | 61 | 7.8 | 185 | 132 |
| | G | 147 | 61 | 72 | 8.8 | 212 | 151 |
| Benomyl Wp, 50% (13g/20 ℓ) | K | 168 | 61 | 74 | 8.5 | 190 | 136 |
| | H | 160 | 56 | 70 | 8.3 | 181 | 129 |
| | G | 176 | 68 | 75 | 9.3 | 210 | 150 |
| Propineb Wp, 70% (40g/20 ℓ) | K | 121 | 55 | 63 | 7.4 | 182 | 130 |
| | H | 118 | 50 | 60 | 7.1 | 175 | 125 |
| | G | 139 | 58 | 70 | 8.0 | 198 | |
| Control | K | 118 | 46 | 57 | 7.4 | 140 | 100 |
| | H | 115 | 43 | 53 | 7.2 | 134 | 141 |
| | G | 121 | 50 | 66 | 7.0 | 151 | 108 |
| LSD(0.05) | | 18.80 | 11.21 | 7.7 | 3.1 | 48.93 | - |

K : kwangyang Local, H : Hadong Local, G : Gurye Local