

## C19 보리槁萎縮病(BaYMV) 罷病이 쌀보리 농업형질에 미치는 影響

원광대학교 : 이종호\*  
호남농업시험장 : 김양길

### Influence of Some Agronomic Characteristics in Naked Barley(*Hordeum vul.* L.) Affected by BaYMV

Col. of Life Sci. and Nat. Res., Wonkwang Univ. : Joog-Ho Lee\*  
National Honam Agri. Exp. Sta. : Yang-Kil Kim

#### 시험목적

보리호위축병(BaYMV) 이병이 쌀보리의 농업형질 및 수량에 미치는 영향을 검토하고자 함.

#### 재료 및 방법

- 공시품종 : 백동
- 공시포장 : 보리호위축병 상습발병 포장
- 파종방법 : 헵폭파
- 엽록소 함량: Chlorophyll meter(SPAD-502), Chlorophyll fluorescence 측정 : (FIM-1500), 색도 : Spectrophotometer(CM-508i)
- 기타 : 생육특성, 수량구성요소 및 수량 등(건전주, 이병주)

#### 시험결과 및 고찰

- 보리槁萎縮病에 罷病된 株는 葉綠素 含量이 健全株에 비하여 13.7정도 낮은 함량을 보였으며, 出穗는 10~11일정도 지연이 되었고, 乾物重 75%, 稗長 68%, 穗數 49% 감소하였다.
- 罷病株의 節間長 減少는 穗를 제외한 상부로부터 제1~제6節間에서 나타났으며, 그 중 제3~5節間에서 減少率이 75~80%로서 가장 컼다.
- 보리槁萎縮病에 의하여 芒長 17~19%, 粒數 47%, 千粒重 60%, 株當 粒重 78% 감소하였으며, 종실에서 幅과 두께에서, 色度는 明度와 赤色度에서 차이를 보였다.

Table 1. Chlorophyll contents and fluorescence for infected plants by BaYMV in naked barley

Division	SPAD value	FO	FM	FV	FV/FM
Healthy plants	44.7 <sup>a</sup>	614 <sup>a</sup>	3340 <sup>a</sup>	2926 <sup>a</sup>	0.83 <sup>a</sup>
Infected plants	31.0 <sup>b</sup>	680 <sup>a</sup>	2961 <sup>a</sup>	2280 <sup>b</sup>	0.77 <sup>b</sup>
Difference	13.7	-66	646	646	0.06

<sup>b</sup> Means followed by the same in a column letter are not significantly different at the 5% level by DMRT.

FO : Low level signal

FV : Variable component of fluorescence

FM : Maximal fluorescence signal

FV/FM : Calculated from the values obtained

Table 2. The range of heading time for infected plants by BaYMV in naked barley

Division	Heading time/plant	
	Range	Days
Healthy plants	Apr. 30 ~ May 9	8.1±1.7 <sup>b</sup>
Infected plants	May 10 ~ May 21	9.7±4.2
Difference	10~11 days	-1.6

<sup>b</sup> Mean± standard deviation.

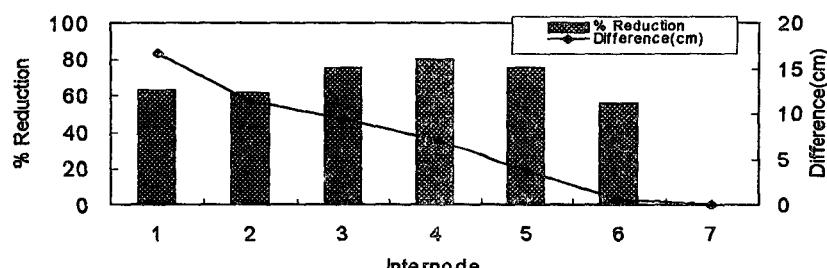


Fig. 1. Reduction percentage and difference of internode length of infected plants by the BaYMV in naked barley.

Table 3. The difference of the kernel dimension for infected seeds by BaYMV in naked barley

Division	Kernel dimension(mm)			L/W
	Length	Width	Thickness	
Healthy plants	6.0 <sup>a</sup>	3.4 <sup>a</sup>	2.4 <sup>a</sup>	1.8 <sup>b</sup>
Infected plants	6.1 <sup>a</sup>	2.7 <sup>b</sup>	1.8 <sup>b</sup>	2.3 <sup>a</sup>
Difference	-0.1	2.4	0.6	-0.5

<sup>b</sup> Means followed by the same in a column letter are not significantly different at the 5% level by DMRT.

Table 4. The difference of color values for between infected seeds by BaYMV and healthy ones in naked barley

Division	Color values		
	Lightness	Redness	Yellowness
Healthy seeds	49.9 <sup>a</sup>	7.3 <sup>b</sup>	28.7 <sup>a</sup>
Infected seeds	44.7 <sup>b</sup>	8.7 <sup>a</sup>	27.3 <sup>a</sup>
Difference	5.2	-1.4	1.4

<sup>b</sup> Means followed by the same in a column letter are not significantly different at the 5% level by DMRT.