

보리의 붉은곰팡이병 저항성에 대한 기주와 병원간 반응  
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 박종철, 김정곤

**Genotype × Strain Interactions for Resistance to Fusarium Head Blight in Barley (*Hordeum vulgare* L.)**

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**실험목적**

보리의 붉은곰팡이병에 대한 저항성 품종(계통)을 선발하고, 선발된 품종들의 균계에 따른 저항성 반응을 검토하고자 함.

**재료 및 방법**

(1) 저항성 품종 선발

- 공시재료 : 국내외 171개 보리 품종 및 계통
- 실험방법 :
  - 공시균주 : SCKO-4
  - 접종농도 :  $5.0 \times 10^5$  macroconidia mL<sup>-1</sup>
  - 접종시기 : 출수/개화기
  - 접종방법 : 분무접종법
  - 검정조건 : 온도 25°C, 상대습도 80~95%/주야
  - 판정시기 : 접종 후 7일

(2) 저항성 품종에 대한 기주와 병원간 반응

- 공시재료 : MNBrite-c, Gobernadora-c, Chevron-b, 진광보리, 부흥
- 실험방법 :
  - 공시균주 : SCKO-4, CPC-5, JB-6
  - 기타 조건은 실험 (1)과 동일

**실험결과**

- 171개의 국내외 보리 품종 및 계통 중에서 진광보리, 부흥, Atahualpha92, Chevron-b, Gobernadora-d 및 MNBrite-c 등 6개 품종이 붉은곰팡이병에 대하여 저항성을 나타내었음.
- 저항성 품종들의 이병 정도는 품종 및 *Fusarium graminearum*의 strains (SCK-O4, CPC-5, JB-6)에 따라 유의성이 있었으나 품종과 strain간 상호작용에 대한 유의성은 인정되지 않았음.

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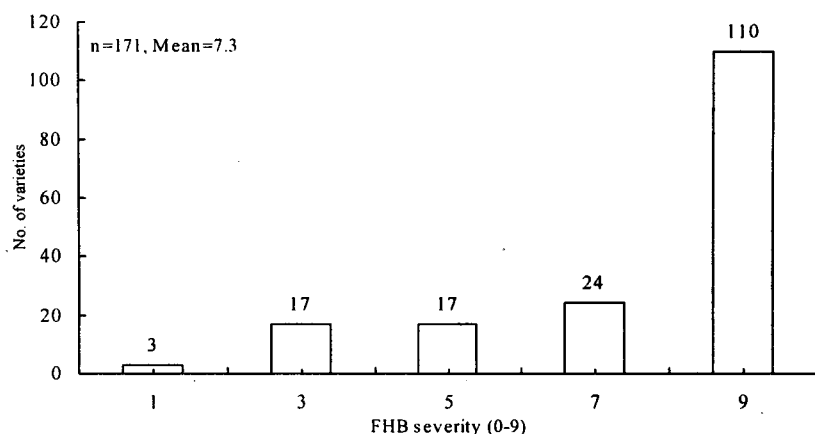


Fig. 1. Varietal variation for the resistance to Fusarium head blight(FHB) in barley.

Table 1. Mean FHB severity of barley varieties selected as resistance to Fusarium head blight in this study.

Variety	Origin	Spike type	Hull type	FHB severity <sup>a</sup> (0-9)
Jinkwangbori	Korea	2-Row	Covered	1.3 <sup>b</sup>
Buheung	Korea	6-Row	Covered	2.5
MNBrite-c	USA	6-Row	Covered	1.8
Gobernadora-d	Mexico	2-Row	Covered	1.2
Atahualpha92	Ecuador	2-Row	Hull-less	2.3
Chevron-b	Switzerland	6-Row	Covered	2.2

<sup>a</sup>FHB severity values were scored by the rate of infected kernels per spike (ranks 0, no infection; 1, below 5%; 2, 6-10%; 3, 11-20%; 4, 21-30%, 5, 31-50%, 6, 51-60%; 7, 61-70%, 8, 71-90%; 9, above 90%), and it was the means of 3 replicates; Each replicate consisted of a single pot with one plant, and three heads were scored per replicate. <sup>b</sup>Values presented are means between spring and fall test. <sup>c</sup>The greenhouse was conditioned under 18 to 25°C with 80 to 100% humidity. <sup>d</sup>FHB severity was evaluated on the 7<sup>th</sup> day after inoculation.

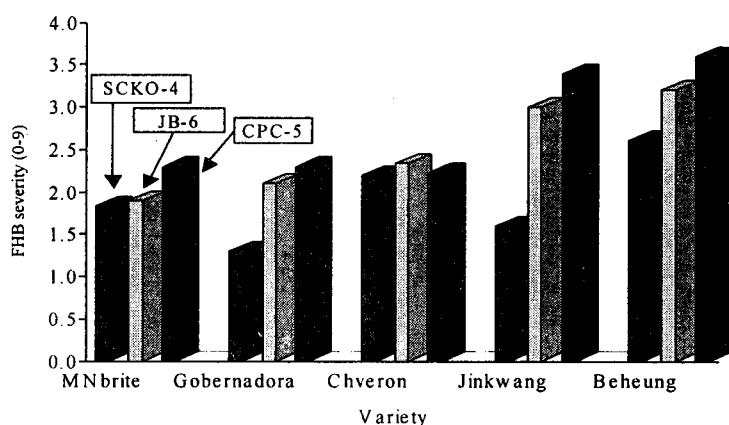


Fig. 2. Effect of *Fusarium* strains on FHB severity in barley varieties selected as resistance to Fusarium head blight.