

**S1 Fig. Phenotypes of knockout strains in *Fusarium graminearum***

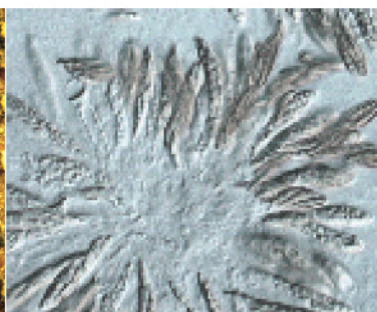
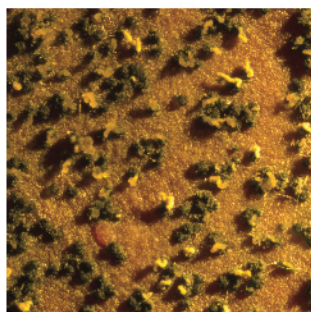
Strain

Perithecia

Perithecium contents

**PH-1**

Wild type



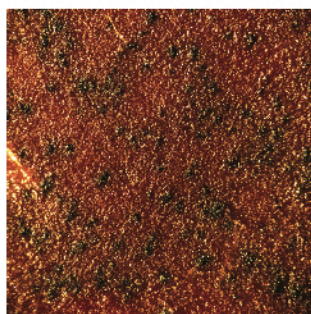
**FGSG3028**  
(*sdi-4*)

Protoperithecia



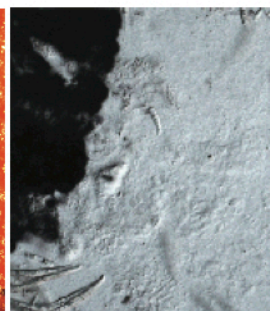
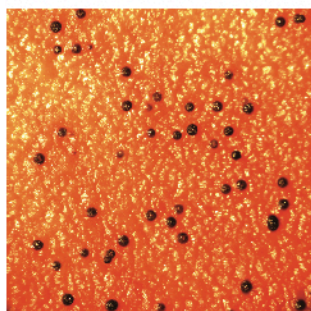
**FGSG16340**

Protoperithecia



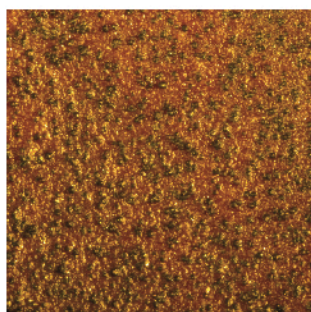
**FGSG5166**  
(*ipe-2*)

Limited perithecia;  
no asci



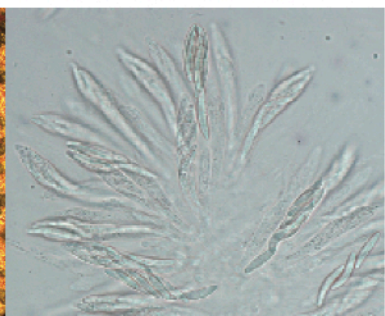
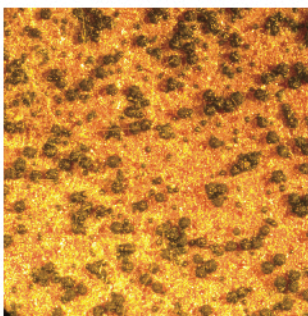
**FGSG13162**  
(*pdv-1*)

Small perithecia;  
no asci

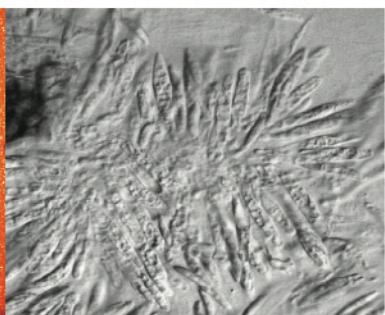
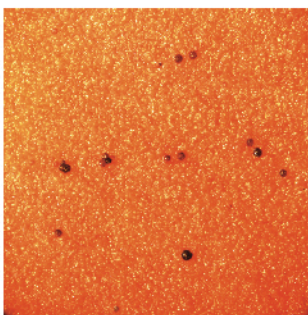


**FGSG2102****(*asy-1*)**

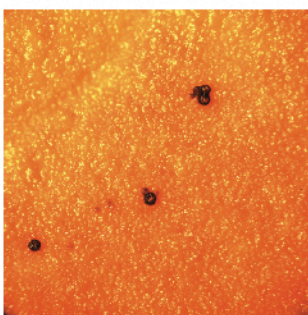
Asynchronous  
development;  
mature normally

**FGSG0565****(*div-12*)**

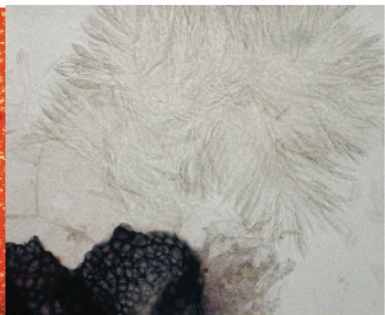
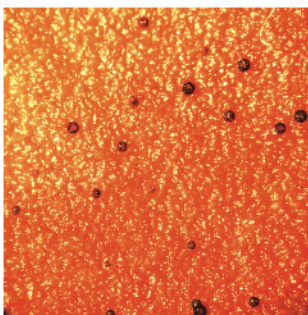
Limited perithecia;  
delayed  
development

**FGSG6651****(*vad-1*)**

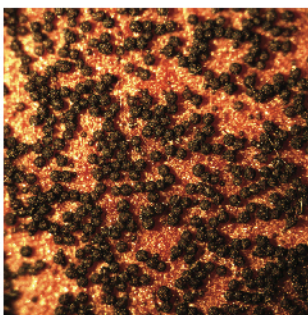
Limited numbers of  
perithecia; delayed  
development, minimal  
cirrhi production

**FGSG7478****(*ipe-1*)**

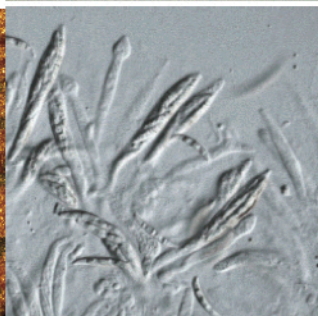
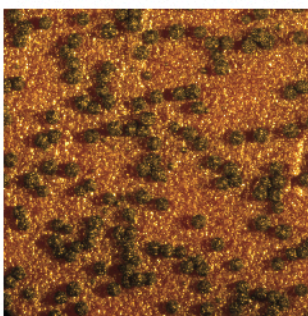
Limited perithecia;  
delayed  
development

**FGSG8695****(*pls-1*)**

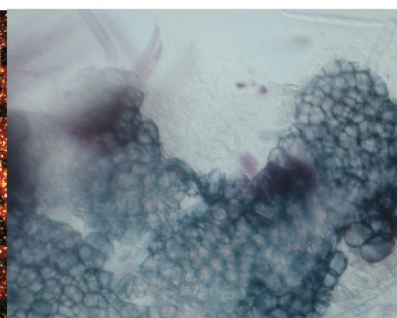
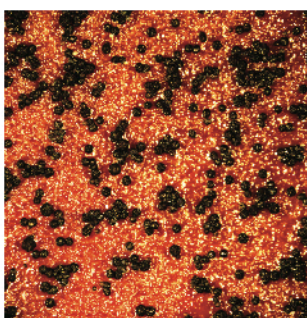
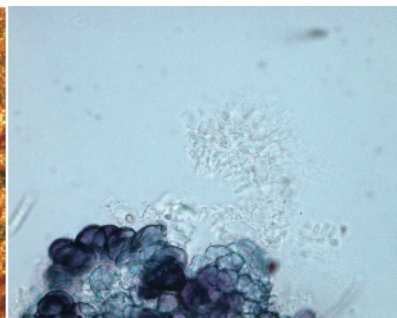
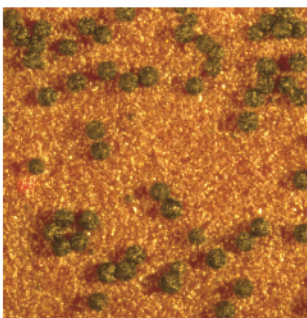
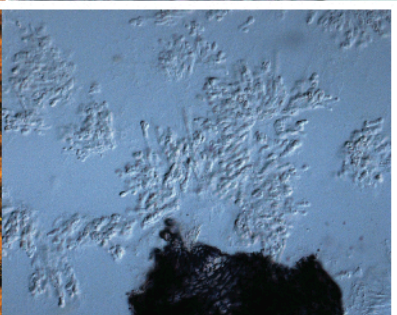
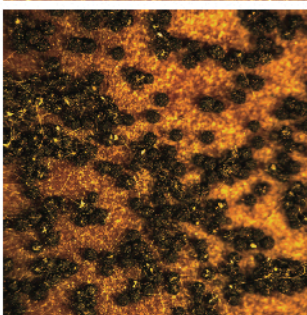
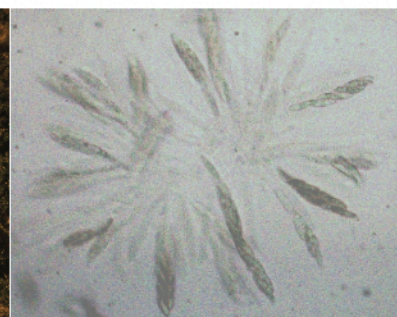
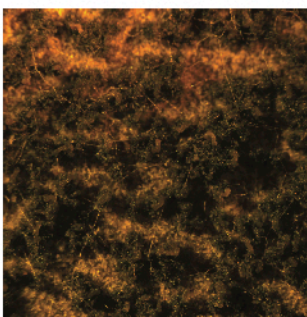
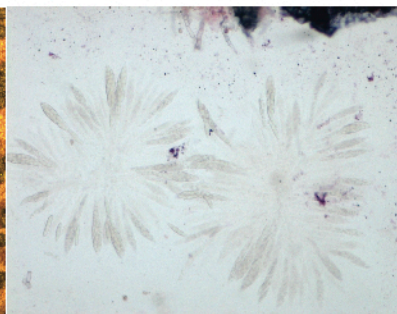
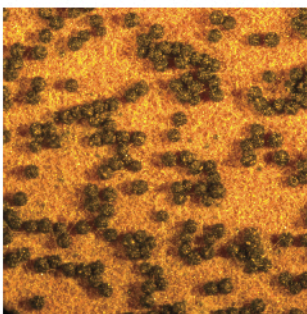
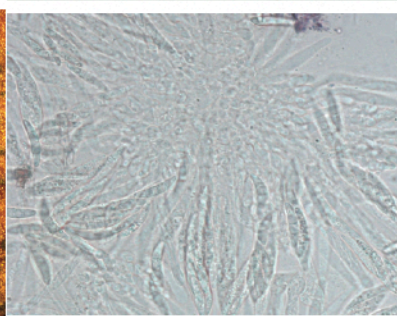
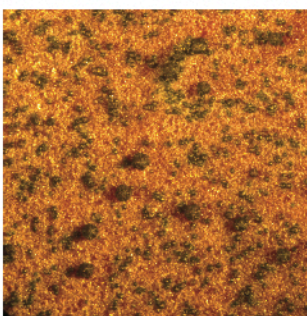
Increased number of  
perithecia

**FGSG4997****(*pna-2*)**

Some asci are  
underdeveloped;  
no cirrhi; less firing.

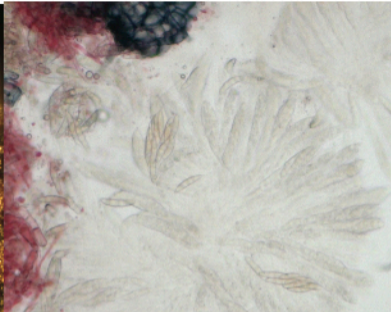
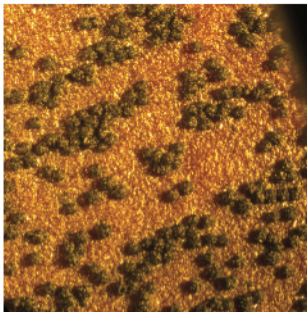




**FGSG4417****(*stc-1*)**No asci;  
fully developed wall**FGSG17499****(*asl-3*)**No asci;  
fully developed wall**FGSG7111****(*asl-1*)**No asci;  
mature wall**FGSG1108****(*rel-5*)**Early spore release;  
increased cirrhi**FGSG4001****(*rel-1*)**No cirrhi; reduced  
spore discharge;  
mature perithecia;  
evanescent asci**FGSG5652****(*asy-2*)**Asynchronous;  
no cirrhi; delayed  
reduced spore  
discharge

## FGSG10094

No cirrhi;  
reduced firing



## FGSG17494 (*rel-4*)

Reduced firing;  
no cirrhi

