

FY21 Performance Progress Report

Due date: July 26, 2022

Cover Page

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Fiscal Year:	2021
USDA-ARS Agreement ID:	59-0206-0-185
USDA-ARS Agreement Title:	Investigation of Fusarium Head Blight in Tennessee
FY20 USDA-ARS Award Amount:	\$17,163
Recipient Organization:	University of Tennessee-Knoxville Entomology and Plant Pathology 208 West TN Research and Education Ctr., 605 Airwayd Blvd. Jackson, TN 38301
DUNS Number:	133891015
EIN:	62-6001636
Recipient Identifying Number or Account Number, if any:	R111017479
Project/Grant Period:	6/1/21 - 5/31/23
Reporting Period End Date:	5/31/2022

USWBSI Individual Project(s)

USWBSI Research Category*	Project Title	ARS Award Amount
MGMT-IM	Integrated Management of FHB and DON in Soft Red Winter Wheat in Tennessee	\$17,163
FY21 Total ARS Award Amount		\$17,163

I am submitting this report as an: Annual Report Final Report

I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.



Principal Investigator Signature

7/28/2022

Date Report Submitted

† BAR-CP – Barley Coordinated Project
DUR-CP – Durum Coordinated Project
EC-HQ – Executive Committee-Headquarters
FST-R – Food Safety & Toxicology (Research)
FST-S – Food Safety & Toxicology (Service)
GDER – Gene Discovery & Engineering Resistance
HWW-CP – Hard Winter Wheat Coordinated Project

MGMT – FHB Management
MGMT-IM – FHB Management – Integrated Management Coordinated Project
PBG – Pathogen Biology & Genetics
TSCI – Transformational Science
VDHR – Variety Development & Uniform Nurseries
NWW – Northern Soft Winter Wheat Region
SPR – Spring Wheat Region
SWW – Southern Soft Red Winter Wheat Region

Project 1: Integrated Management of FHB and DON in Soft Red Winter Wheat in Tennessee

1. What are the major goals and objectives of the research project?

Integrated management trial: Obj. 1. Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON in soft winter wheat, with emphasis on new combinations fungicides, Prosaro Pro and Sphaerex.

2. What was accomplished under these goals or objectives? (For each major goal/objective, address these three items below.)

a) What were the major activities?

A field trial was conducted with 4 varieties, varying in their susceptibility to FHB, and 5 different fungicides compared to a non-treated check, using a randomized complete block, with split-plot arrangement at 2 locations (at Milan AgResearch and Education Center and on-farm location in Jackson) in Tennessee in the 2021-2022 soft red winter wheat season.

b) What were the significant results?

While there wasn't significant disease pressure, there were differences among greenness ratings for varieties at both locations and for fungicide treatment at one location. Although this did not correlate to differences in yield by variety or treatment. Illustrating a more tolerant FHB variety, even in the absence of disease, yielded just as well as a more susceptible FHB variety; where as in the absence of disease a foliar fungicide to protect yield was not needed or beneficial.

c) List key outcomes or other achievements.

These data will be presented to growers as well as previous years data from this initiative, highlighting the advantages to using a more FHB tolerant variety as well as scouting for disease and using the FHB forecast model to best guide when fungicide applications are warranted and when they are not, saving producers money and reducing unnecessary fungicide applications.

3. What opportunities for training and professional development has the project provided?

Graduate and undergraduate student learned how to scout for wheat diseases and look for FDK as well as seen first-hand factorial field plot design and analysis of data from such a design.

4. How have the results been disseminated to communities of interest?

They will be the coming wheat season (on utcropl.com and news.utcropl.com) as well as in county production meetings to producers in the winter. Additionally, the data will be shared with the MGMT-IM group to be incorporated into the larger wheat dataset.

Publications, Conference Papers, and Presentations

Please include a listing of all your publications/presentations about your FHB work that were a result of funding from your FY21 grant award. Only citations for publications published (submitted or accepted) or presentations presented during the **award period** should be included.

Did you publish/submit or present anything during this award period?

- Yes, I've included the citation reference in listing(s) below.
 No, I have nothing to report.

Journal publications as a result of FY21 grant award

List peer-reviewed articles or papers appearing in scientific, technical, or professional journals. Include any peer-reviewed publication in the periodically published proceedings of a scientific society, a conference, or the like.

Identify for each publication: Author(s); title; journal; volume: year; page numbers; status of publication (published [include DOI#]; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no).

Books or other non-periodical, one-time publications as a result of FY21 grant award

Report any book, monograph, dissertation, abstract, or the like published as or in a separate publication, rather than a periodical or series. Include any significant publication in the proceedings of a one-time conference or in the report of a one-time study, commission, or the like.

Identify for each one-time publication: Author(s); title; editor; title of collection, if applicable; bibliographic information; year; type of publication (book, thesis or dissertation, other); status of publication (published; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no).

Other publications, conference papers and presentations as a result of FY21 grant award

Identify any other publications, conference papers and/or presentations not reported above. Specify the status of the publication.