

CAST Issue Paper

Number 58
April 2017

Crop Protection Contributions toward Agricultural Productivity

*A paper in the series on
The Need for Agricultural Innovation to
Sustainably Feed the World by 2050*

ABSTRACT

The world will need the capacity of crop production to double by 2050 to meet the growing demand for food, feed, and fiber. This report examines the role of crop protection in this effort, focusing on the need for innovation in crop protection to sustainably feed the world by 2050. The report discusses the current state of crop protection, the challenges facing the industry, and the opportunities for innovation. It also provides a list of recommendations for the industry and policymakers to address these challenges and opportunities.



Key findings: Crop protection is essential for ensuring food security and agricultural productivity. The industry must continue to innovate to develop new and improved crop protection products and practices. This includes investing in research and development, promoting the use of integrated pest management (IPM) strategies, and supporting the development of new crop protection technologies. The industry must also work to address the challenges of resistance, environmental impact, and safety. Policymakers should support the industry's efforts to innovate and improve crop protection practices.

CAST Issue Paper 58

Crop Protection Contributions toward Agricultural Productivity

Released April 5, 2017

Chair: Susan Ratcliffe, University of Illinois, Urbana; Nine-member task force

Release/Rollout

Dr. Susan Ratcliffe, the task force chair, presented key findings to an audience at the CropLife America and RISE Regulatory Conference followed by a reception. The CropLife presentation was well attended with over 120 RSVPs received. ([Click here to view a video of the event.](#)) On April 6, Dr. Ratcliffe conducted briefings for Senate staffers in the morning and for House staffers at a noon lunch seminar. Approximately 40 attended these briefings.

In-kind Contributions: 235 volunteer hours; \$17,390 monetary value

Press Release (results two weeks after release)

- Press release went to 13,016 e-contacts (7,539 media) resulting in 4,350 opens/interactions
- 298,252 headline impressions, and 194 total pickups on [press release through PRWeb.](#)
- A sampling of sites where the release was picked up: ATTRA – Sustainable Agriculture, The Connection—Newsletter of the North Central Integrated Pest Management Center, Growing Florida, IPM in the South, Nebraska Institute of Agriculture and Natural Resources Cropwatch

Follow-On Activities

- Video of Dr. Ratcliffe’s presentation and slides posted on CAST website and YouTube. [Click here to view.](#) (668 views as of 4/11/2019)
- Video of Dr. Norman Leppla’s presentation and PowerPoint at the Northeast Plant, Pest, and Soils Conference in Philadelphia on January 6, 2018. [Click here to view.](#)

Paper Distribution

- Issue Paper Downloads—6 months after release: 4,454; 1 year: 5,740; 18 months: 6,557; 2 years: 6,931
- Ag quickCAST Downloads—6 months: 1,712; 1 year: 2,334; 18 months: 2,735; 2 years: 2,899
- Distributed over 600 copies of printed issue paper

Indirect Paper Distribution

BCPC, April 19, 2017 (link to paper)

<https://www.bcpc.org/newslink/crop-protection-contributions-toward-agricultural-productivity>

This report last updated 4/11/2019.

Mississippi Soybean Promotion Board (link to paper)

<http://mssoy.org/resources/crop-protection-contributions-toward-agric-productivity-cast-paper-no-58?tags=diseases>

Southern Crop Production Association, April 5, 2017 (link to paper)

<http://www.southcrop.org/production-reports/crop-protection-contributions-toward-agricultural-productivity/>

Articles and Web Mentions

Agri-Pulse, Washington Week Ahead, Phil Brasher, April 2, 2017 (advance PR of paper rollout)

<https://www.agri-pulse.com/articles/9118-washington-week-ahead-senate-gop-aims-to-confirm-gorsuch-as-perdue-waits?iframe=1>

AgriMarketing, April 3, 2017 (Advance PR on paper rollout)

<http://www.agrimarketing.com/s/109219>

ATTRA Sustainable Agriculture April 4, 2018

https://attra.ncat.org/calendar/br_news.php/cast-issue-paper-on-crop

CAST, April 5, 2017

http://www.cast-science.org/news/?casts_latest_paper_now_availablecrop_protection_contributions&show=news&newsID=23102

CAST Constant Contact April 5, 2017

<http://myemail.constantcontact.com/CAST-Presents--Crop-Protection-Contributions-Toward-Agricultural-Productivity---RSVP-for-Seminars-April-5-or-6-in-Washington--DC.html?soid=1102365224729&aid=w2FsKoLTZ0o>

Cision PR Web April 5, 2017

<http://www.prweb.com/releases/2017/04/prweb14204782.htm>

CropLife America, (advance PR on paper release at RISE conference)

<https://www.croplifeamerica.org/tag/regulatory-conference/>

CropLife Latin America (article and links to summary, paper, and CAST website)

<https://www.croplifela.org/en/whats-new/links/284-crop-protection-contributions-toward-agricultural-productivity>

Growing Produce June 16, 2017

<http://www.growingproduce.com/vegetables/florida-farmers-fighting-to-find-their-way-out-of-the-weeds/>

MSPB Mississippi Soybean Promotion Board April 4, 2018

<https://mssoy.org/resources/crop-protection-contributions-toward-agric-productivity-cast-paper-no-58?tags=insects>

NIFA Update, April 5, 2017

<https://content.govdelivery.com/accounts/USDANIFA/bulletins/191e945>

Northeastern Weed Science Society Proceedings, May 22, 2018

https://www.newss.org/wp-content/uploads/2018-NEWSS-Proceedings_FINAL.pdf

SeedQuest, April 5, 2017 (article and link to paper)

http://www.seedquest.com/forum.php?type=solution&id_article=87013

This report last updated 4/11/2019.

Paper Citations

A History of Pesticides, Graham Matthews, 2018

https://books.google.com/books?id=XchwDwAAQBAJ&pg=PA195&lpg=PA195&dq=Crop+Protection+Contributions+toward+Agricultural+Productivity+%22Crop+Protection+Contributions+toward+Agricultural+Productivity%22&source=bl&ots=dLxOHMMTci&sig=lfCaqwJFuprkdesIVix9Tt06aoQ&hl=en&sa=X&ved=2ahUKEwiD74jewe_dAhUj6IMKHYP-BQY4ChDoATAJegQIAxAB#v=onepage&q=Crop%20Protection%20Contributions%20toward%20Agricultural%20Productivity%20%22Crop%20Protection%20Contributions%20toward%20Agricultural%20Productivity%22&f=false

El futuro del sector agrícola español, La Fundación Antama, March 21, 2019

http://fundacion-antama.org/wp-content/uploads/2019/03/20190321-AEPLA-Informe_Sector_Agricola.pdf

Growing Produce, Frank Giles, June 16, 2017

Florida Farmers Fighting to Find Their Way out of the Weeds

<http://www.growingproduce.com/vegetables/florida-farmers-fighting-to-find-their-way-out-of-the-weeds/>

La Unión de Pequeños Agricultores y Ganaderos (UPA), July 13, 2018

10 things that the ALAS Alliance wants you to know about agricultural production

<https://www.upa.es/upa/uControlador/index.php?nodo=1021&hn=2484>

SAAESD SI073: Biological Control of Arthropod Pests and Weeds, Saied Mostaghimi, August 29, 2018

<https://www.nimss.org/projects/view/mrp/outline/18482>

USDA Natural Resources Conservation Service, CONSERVATION PRACTICE STANDARD INTEGRATED PEST MANAGEMENT, May 15, 2018

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&ved=2ahUKEwiT_qvt_dAhVC2oMKHfpxC-EQFjAHegQIARAC&url=https%3A%2F%2Fwww.nrcs.usda.gov%2Fwps%2FPA_NRCSConsumption%2Fdownload%3Fcid%3Dnrcseprd1415438%26ext%3Dpdf&usg=AOvVaw1Eg_ATboFxd_m8yRmDtqUj

Social Media

Twitter –

[@plantdisease]: New @CASTagScience Issue Paper: #CropProtection Contributions Toward Agricultural #Productivity
(11:30 am • 5 Apr 17)

[@EversoleAssoc]: New @CASTagScience Issue Paper “Crop Protection Contributions Toward Agricultural Productivity”
(7:54 am • 5 Apr 17)

[@RhonaA_PhD]: New CAST Issue Paper "Crop Protection Contributions Toward Agricultural Productivity"
(7:54 am • 5 Apr 17)

[@PhytoBiomes]: New @CASTasScience Issue Paper “Crop Protection Contributions Toward Agricultural Productivity”
(7:06 • 5 Apr 17)

This report last updated 4/11/2019.

[**@PestGeekPodcast**]: Crop Protection Contributes toward Agricultural Productivity
(8:16 am • 3 Apr 17)

[**@agbiotech**]: CAST's Latest Paper Now Available – Crop Protection Contributions @CASTagScience
@CropLifeIntl @CropLifeAmerica
(7:06 am • 7 Apr 17)

[**@Robot_Insect**]: A new publication by CAST, and it has interesting implications. Crop Protection – IP58 –
CAST
(3:10 pm • 6 Apr 17)

[**@GemmaAgricultur**]: CAST Issue Paper on Crop Protection Released
(9:01 pm • 5 Apr 17)

[**@croplifemag**]: CAST paper puts numbers to potential losses we would suffer without crop protection
products. Presentation in DC now. #partneringforprogress
(2:29 pm • 5 Apr 17)

[**@BobWrightUNL**]: @UNL_CropWatch Crop Protection Contributions to Ag Productivity –QC CAST –
CAST
(6:36 am • 5 Apr 17)

[**@VroomJayJohn**]: Dr Susan Radcliffe debuts new paper by @CASTagScience on crop protection
contributions at CLA Reg Conf
(2:34 pm • 5 Apr 17)

[**@CropLifeAmerica**]: What are the benefits of #crop protection? Disease management, reduced #tillage &
increased yield @CASTagScience #partneringforprogress
(2:27 pm • 5 Apr 17)

[**@WorldofWeeds**]: CAST Paper on Crop Protection Contributions toward Agricultural Productivity
(9:25 pm • 6 Apr 17)

[**@croplifemag**]: CAST paper puts numbers to potential losses we would suffer without crop protection
products. Presentation in DC now #partneringforprogress
(5 Apr 2017)

[**@croplifemag**]: CAST releasing paper on crop protection contributions to ag productivity at CLA RISE Spring
conf.
(5 Apr 2017)

[**@FoodConcerns**]: CAST: “Crop Protection Contributions to Ag Productivity”—...
(24 Mar 2017)

[**@UNL_CropWatch**]: Crop Protection Contributions to Ag Productivity
(5 Apr 2017)

[**@southernipm**]: RSVP for a CAST Seminar “Crop Protection Contributions Toward Agricultural
Productivity”—April 5 or 6 in...
(4 Apr 2017)

[**@CASTagScience**]: #DYK fungicides have been around for more than 300 years?! ...
<https://twitter.com/CASTagScience/status/984849130735460353>

This report last updated 4/11/2019.

(13 Apr 2018)

Facebook—

[The American Phytopathological Society]: New Council for Agricultural Science and Technology (CAST) Issue Paper: #CropProtection Contributions Toward Agricultural #Productivity >> <http://conta.cc/2oVH2eH> #PlantScience #CropScience

(5 Apr 17)

[Weed Science Society of America]: CAST Paper on Crop Protection Contributes toward Agricultural Productivity

(6 Apr 17)

[CAST]: CAST Presents "Crop Protection Contributions Toward Agricultural Productivity"--RSVP for ...

(28 Mar 17)

[Weed Science Society of America]: CAST Seminar on Crop Protection Contributions toward Agricultural Productivity

(24 Mar 17)

[Northeastern IPM Center]: The Center for Agriculture, Science and Technology announces a paper on The Need for Agricultural Innovation to Sustainably Feed the World by 2050. Susan Ratcliffe, Director of the North Central IPM Center is one of the authors. Free download link is here.

(10 Apr 17)

[BioPortfolio BioPortfolio]: [#healthcare](#) New CAST Issue Paper "Crop Protection Contributions Toward Agricultural Productivity": A paper in the series on "The Need for Agricultural Innovation to Sustainably Feed the World by 2050" Ames Iowa PRWEB April 05 2017 April 5 2017 Council for Agricultural Science and Technology Ames Iowa Many rely on just a few to provide ...

(5 Apr 17)

[Pestgeekpodcast]: <https://ipmsouth.com/2017/04/04/rsvp-for-a-cast-seminar-crop-protection-contributions-toward-agricultural-productivity-april-5-or-6-in-washington-dc/>

(4 Apr 17)

[Alkaline Diet]: <http://www.prweb.com/releases/2017/04/prweb14204782.htm>

(5 Apr 17)

[CAST]: CAST Seminars on "Crop Protection Contributions Toward Agricultural Productivity"--April...

(4 Apr 17)

[CAST]: CAST CATCH of the DAY Crop Protection & Innovation--Invite to rollout events, April 5 & 6

(31 Mar 17)

[CAST]: RSVP for a CAST Seminar "Crop Protection Contributions Toward Agricultural Productivity"--...

(31 Mar 17)

[Mississippi Soybean Promotion Board]: Crop protection will increasingly depend on new technologies and IPM strategies. See a summary of the Council for Agricultural Science and Technology (CAST) issues paper in Dr. Heatherly's latest blog

(25 Apr 17)

This report last updated 4/11/2019.

[Extension Master Gardener]: Council for Agricultural Science and Technology (CAST) has a paper out that looks at plant protection trends such as...

(19 Apr 17)

CAST Blog, April 5, 2017

<http://cast-science.blogspot.com/2017/04/crop-protection-innovation-at-war-with.html>

CAST Website, February 23, 2018

http://www.cast-science.org/news/?biotech_revolution&show=news&newsID=23517