



The International Society for Plant Pathology promotes the world-wide development of plant pathology and the dissemination of knowledge about plant diseases and plant health management



PROMOTING WORLD-WIDE PLANT HEALTH AND FOOD SECURITY

INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

# ISPP NEWSLETTER

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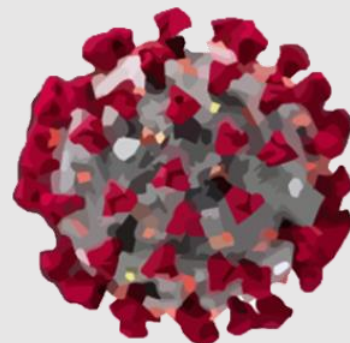


INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY (ISPP)

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## How is COVID-19 AFFECTING PLANT PATHOLOGISTS?

In the third month of this series, Ani Widiastuti, Raed Haleem, Faheem Uddin Rajer and Charlie Delp share their stories on: “How is the COVID-19 pandemic impacting your research, teaching, outreach and lives? Share your stories with our ISPP community on how you and your family and colleagues are coping. Send a few lines through the [online form](#) to share in the ISPP Newsletters over the next few months!



### ANI WIDIASTUTI, UNIVERSITAS GADJAH MADA, INDONESIA

I am a faculty staff in a university where we do academic tasks, conduct research, and community service. At the beginning, it was hard for me to adjust to the many things. I had to learn how to give an online lecture, managing online classes, suspend my research, and coordinating many things to postpone the community service activities. I was very busy studying online course platforms for my class. During my lectures I also feel somehow my lectures are still not optimal. It is not easy to accept the changing situation, postponing research activities and others. However, for the time being, I learnt we have to be flexible and to adjust to the new life.

I focus more on writing some manuscripts and a book chapter. Thankfully during work from home, my past research was just published at the end of May. In this [paper](#) we also reported *Fusarium asiaticum* in maize kernels for the first time in Indonesia.

Now we have to be ready with the new normal. So, in my opinion, this is real life. Many things may be changing suddenly. We may get shock, but human beings are smart creatures. And learn from COVID-19 to love this earth, where we live together. To share life, to care more, not to exploit but to help every creature live in harmony. Sharing is caring!

### FAHEEM UDDIN RAJER, PAKISTAN

I am staying at home since the lockdown was implemented due to COVID-19 in Pakistan. My lab is not in working condition and my master research students are affected badly. Their research is still pending. Though we are going to start online classes of undergraduates soon, feelings are not normal. But we are seeking help from God for the best in the near future.

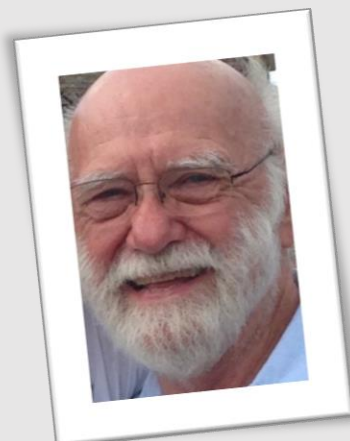


## CHARLIE DELP, UNITED STATES

We very old retirees are well and happy staying at home. What a joy to see the [World Directory](#) back on line. Fran Fisher and I are celebrating. I encourage everyone to sign up in the Directory now.

## RAED HALEEM, IRAQ

As a scientist in plant pathology, our work should be in contact with the plant. I mean I have to see the plant directly and then may need to isolate the causal agent from this plant; unfortunately we can not do this now because we are staying home. On the other hand COVID-19 is affecting my work as a supervisor on different M.Sc projects because I can not follow up their work online.



## POSTPONED AND VIRTUAL CONFERENCES DUE TO COVID-19

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### DANIEL HÜBERLI

In order to protect the health, safety and well-being of our international community from COVID-19 some conferences and workshops have been postponed or changed to virtual meetings. Affected meetings with cancellations or new dates, where confirmed, are listed here. These changes have also been updated in the Coming Events list. Please let me know of any date changes that I may have missed.

- [International Plant Health Conference “Protecting Plant Health in a changing world”](#), has been postponed to 28 June – 1 July 2021.
- [11<sup>th</sup> Australasian Soilborne Diseases Symposium](#), has been postponed to mid-late 2022.



## PLANT HEALTH TV CONTEST

On the occasion of the International Year of Plant Health ([IYPH](#)) 2020, the Euphresco network for phytosanitary research coordination and funding ([Euphresco](#)) and the International Centre for Advanced Mediterranean Agronomic Studies of Bari ([CIHEAM Bari](#)) launched a call for a video competition “Plant Health TV: Research that helps Plant Health”.

Interested scientists are invited to submit a short video (less than three minutes) related to research that is conducted on plant health. Applicants must submit the required material by 1<sup>st</sup> February 2021 at 11:59 pm GMT (new deadline).

The winner of the competition will be invited to attend the [International Plant Health Conference ‘Protecting Plant Health in a changing world’](#) (Helsinki, Finland, 28 June - 1 July 2021). The award covers transport and hotel fees. Four additional videos will be shortlisted and broadcast, together with the winning video, during the final event of the IYPH and on the IPPC website.

More information on the contest and how to participate is available [here](#).



## THE EVOLVING LANDSCAPE AROUND GENOME EDITING IN AGRICULTURE

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A review by S. M. Schmidt *et al.* titled “The evolving landscape around genome editing in agriculture” was published in May 2020 by *EMBO Reports* (vol. 21, e50680). The abstract is as follows:-

Genome editing is revolutionising plant science and its applications in agriculture. In its simplest form, it can generate specific genetic variants that are indistinguishable from naturally evolved variants. The legislation and regulation of genome edited plants in many countries is similarly evolving rapidly to adapt to the new technologies. Here, we summarize and provide an assessment of the current status of this rapidly evolving regulatory landscape, with a focus on recent policy developments in Europe and the global South.

[Read paper.](#)

## UNITED STATES RELAXES RULES FOR BIOTECH CROPS

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ERIK STOKSTAD, SCIENCE, 18 MAY 2020

A major change to U.S. regulation of biotech will exempt some gene-edited plants from government oversight. The new policy, published in the Federal Register today, also calls for automatic approval of variations of established kinds of genetically modified (GM) crops, easing their path to market.

Industry groups are welcoming the new rule, whereas opponents are decrying the reduction of government oversight.

“The main good thing is that it will allow certain aspects of gene editing to move forward,” says Kent Bradford, a plant geneticist at the University of California, Davis. If researchers use gene editing to design a plant that could have been bred conventionally, the new plant will be exempt from regulation. But anything else—such as moving a gene between species or rewiring metabolism—will still require a regulatory review.

[Read more.](#)

## ROBOTS ARMED WITH UV LIGHT FIGHT GRAPE MILDEW

KRISHNA RAMANUJAN, CORNELL CHRONICLE, 3 JUNE 2020

Robots fitted with ultraviolet light lamps that roam vineyards at night are proving effective at killing powdery mildew, a devastating pathogen for many crops, including grapes. Researchers at Cornell AgriTech in Geneva, New York, have partnered with SAGA Robotics in Norway to develop the first commercial robotic units, and the autonomous vehicle robots will appear on the market this year.

This spring, the researchers are using two such robots to conduct field trials on Chardonnay grapes at two sites – Cornell AgriTech’s research vineyards in Geneva, and at Anthony Road Wine Co. in Penn Yan, New York.

Studies at Cornell on the use of UV light to kill grapevine powdery mildew date back to 1991, while trials in cooperation with the University of Florida successfully controlled powdery mildew in strawberries in field trials over the last four years. The latest grape trials controlled not just powdery mildew, but another destructive disease called downy mildew. Collaborations with other universities have also led to trials with squash, pumpkins, cucumbers, hops, basil and industrial hemp.

“For Chardonnay grapes, we’ve got effective suppression of powdery mildew over a period of two years, with treatments once a week,” said David Gadoury, senior research associate in the Department of Plant Pathology and Plant-Microbe Biology at Cornell Agritech, who leads the project.

The UV-light technique is a breakthrough against powdery and downy mildew, which can adapt to chemical antifungal sprays in a single season, costing chemical companies hundreds of millions of dollars in development, along with environmental impacts.

“Everywhere grapes are grown, growers have to worry about powdery mildew,” said Lance Cadle-Davidson, a research plant pathologist at the Grape Genetics Research Unit at the United States Department of Agriculture’s Agricultural Research Service in Geneva, and a partner on the project.

[Read more.](#)



The UV light robot named Thorvald, applies treatment on grape vines in a Cornell AgriTech research field at night (Photo credit: David Gadoury, Cornell Agritech).



## WHAT'S NEW IN MOLECULAR PLANT-MICROBE INTERACTIONS - VIRTUAL SEMINAR SERIES

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*Molecular Plant-Microbe Interactions* (MPMI) is pleased to introduce What's New in MPMI!—a new series of live online seminars highlighting recent papers, presented by our authors. We hope that our virtual seminar series will be a way to draw our research community together, providing an opportunity for us to connect with colleagues across the world. We especially hope that this series will provide an important venue for young scientists to share new work as opportunities to present have dwindled.

This series is freely available to increase and encourage global participation in this MPMI community series to anyone with an interest in molecular plant-microbe interactions. By bringing our talks to you, we hope to increase accessibility. All talks will be recorded and available at a later date on [MPMI Virtual Seminar Series](#).

### UPCOMING SEMINARS

**July 7, 2020 11:00 a.m. Eastern Daylight Time (EDT)**

David Haak and John McDowell present "[Draft assembly of \*Phytophthora capsici\* from long-read sequencing uncovers complexity](#)."

[Register](#)

**July 21, 2020 9:00 p.m. EDT**

Hong Lu presents "[A symbiotic virus facilitates aphid adaptation to host plants by suppressing jasmonic acid responses](#)," a collaborative project between the Feng Cui and Le Kang labs

[Register](#)

**August 4, 2020 11:00 a.m. EDT**

Brandon Reagan from the Tessa Burch-Smith lab presents "[Viruses reveal the secrets of plasmodesmal cell biology](#)."

[Register](#)



## ROADMAP FOR NEXT GENERATION OF CROPS FOR HIGH PRODUCTIVITY AND RESILIENCE TO CLIMATE CHANGE

RESEARCH FOR AGRICULTURE, 24 JUNE  
2020

A roadmap to engineer or breed the next generation of crops for high productivity and resilience to climate change has been laid out by a team of world experts.

The scientists have published findings and insights that identify key biological bottlenecks that limit plant productivity and therefore crop yields.

The research, published in *Nature Plants*, critically analysed existing information, including the authors' own research, and found what the team believe to be crucial information for the future of agriculture production.

Using potatoes and cassava plants, along with other species such as tomato, rice and cotton as models, researchers identified a suite of genes and proteins that limit a leaf's ability to efficiently use solar energy to make assimilates (mainly sucrose), and the translocation to and use of the assimilates within sink organs, such as seeds, fruits and roots.

In identifying these bottlenecks, they also discovered the signalling molecules and regulatory genes that trigger or initiate the growth of sink organ – what determines how many seeds, flowers or fruit a plant might grow.

[Read more.](#)

## CROP PATHOGENS ARE MORE ADAPTABLE THAN PREVIOUSLY THOUGHT

A paper by T. M. Chaloner *et al.* titled “Geometry and evolution of the ecological niche in plant-associated microbes” was published on 11 June 2020 by *Nature Communications* (vol. 11, article number: 2955). The abstract is as follows:-

The ecological niche can be thought of as a volume in multidimensional space, where each dimension describes an abiotic condition or biotic resource required by a species. The shape, size, and evolution of this volume strongly determine interactions among species and influence their current and potential geographical distributions, but the geometry of niches is poorly understood. Here, we analyse temperature response functions and host plant ranges for hundreds of potentially destructive plant-associated fungi and oomycetes. We demonstrate that niche specialization is uncorrelated on abiotic (i.e. temperature response) and biotic (i.e. host range) axes, that host interactions restrict fundamental niche breadth to form the realized niche, and that both abiotic and biotic niches show limited phylogenetic constraint. The ecological terms ‘generalist’ and ‘specialist’ therefore do not apply to these microbes, as specialization evolves independently on different niche axes. This adaptability makes plant pathogens a formidable threat to agriculture and forestry.

[Read paper.](#)

Read popular article in  
[The Conversation.](#)



## USE OF ANTIBIOTICS ON CROPS IS MORE WIDESPREAD THAN PREVIOUSLY THOUGHT

CABI NEWS, 23 JUNE 2020

The world is aware of the overuse of antibiotics and the development of resistance in bacterial populations. This has led to calls for greater control and monitoring of their use in both human and veterinary medicine. What is less well known is that antibiotics are routinely used in crop production, and according to new research, are being recommended far more frequently and on a much greater variety of crops than previously thought.

The use of antibiotics to control plant diseases is not new; they have been used for decades on crops like apples and pears and represent an effective means of controlling some bacterial diseases. However, the extent of their use worldwide has been little studied and is largely unknown.



Spray residue on rose following a recent spraying of a fungicide and a streptomycin/tetracycline blend in South East Asia (Photo credit: CABI).

A recent joint investigation by the FAO, OIE and the WHO into antibiotic use found that the numbers of countries that are currently monitoring the use of antibiotics in crop cultivation is very low compared to those monitoring antibiotic use in the veterinary and medical arenas. Out of the 158 countries surveyed, only 3% indicated they had any kind of regular assessment of the types and amounts of antibiotic use on crops. This contrasts strongly with countries that have monitoring systems in place for human use (26%) and animal health (23%). This lack of data on the use of antibiotics in crop-based agriculture has led many people to presume the amounts being used were negligible.

The new research was an analysis of more than 436,000 records from [Plantwise](#) plant clinics in 32 countries between 2012 and 2018. It revealed that antibiotics, some of which are considered critically important for human medicine, are being recommended for use on over 100 crops, and in some cases, in copious quantities and as prophylactic treatments.

The paper, published in CABI *Agriculture and Bioscience*, estimates that 63 tons of streptomycin and 7 tons of tetracycline (both critically important antibiotics in human medicine) are sprayed annually on the rice crop in Southeast Asia alone. In some years and in some regions, nearly 10% of rice recommendations featured an antibiotic.

[Read more.](#)

## WILD RELATIVES OF AUSTRALIAN CHICKPEA UNCOVER NEW HOPE IN FIGHT AGAINST ROOT LESION NEMATODES

UNIVERSITY OF SOUTHERN QUEENSLAND NEWS, 24 JUNE 2020

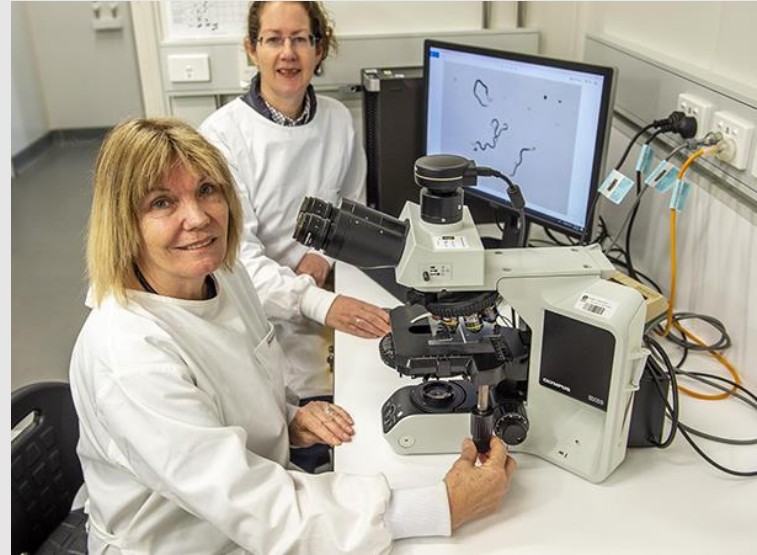
A University of Southern Queensland (USQ) research project has taken a deep dive in to the chickpea family tree, uncovering wild relatives in faraway places that hold secrets that could alter the next generation of Australian chickpea varieties. Supported by the Grains Research and Development Corporation (GRDC), the USQ-led project has investigated a new collection of wild chickpea species from Turkey found to be more resistant to root lesion nematodes than Australian chickpeas.

Dr Rebecca Zwart from USQ's Centre for Crop Health said the world-first investigation has the potential to greatly benefit Australian chickpea and wheat growers. "Chickpea is Queensland's biggest pulse export and is commonly grown in this region in rotations with wheat," Dr Zwart said.

"Root-lesion nematode cause major damage to chickpea and wheat crops. Nearly 80 percent of paddocks in the sub-tropical grain region of eastern Australia of northern New South Wales and southern Queensland have these nematodes in their soil," she said.

"Even when resistant varieties are planted, these nematodes can survive in the soil. So, while a farmer might grow a resistant variety or crop in a couple of seasons, if they plant a susceptible variety then those nematodes activate with a new food source and the populations build up over again. That's why it is important for farmers to have resistant varieties for all the crops that they grow."

Fellow project researcher Roslyn Reen said around 30% of the wild chickpea species from Turkey were found to be significantly more resistant to root-lesion nematodes than the least susceptible Australian chickpea variety. "Chickpea itself doesn't have a diverse gene pool to work with so looking to its



Roslyn Reen sitting down on the left, Dr Rebecca Zwart standing on the right. (Photo credit: USQ).

relatives for clues is important, and our research has shown that there are two wild species, that can be crossed with commercial grown chickpea varieties to offer greater nematode resistance," Mrs Reen said.

"The next step will be looking for the genes that cause resistance in these wild chickpea species and tagging them with molecular markers. In this way, the new resistance genes can be tracked through the breeding process to ensure that when the wild relatives are crossed with chickpea they pass on the resistance genes through the family tree to future Australian chickpea varieties," she said.

"Having more effective genes for resistance will protect chickpea crops from yield loss as well as reduce residual populations of root-lesion nematode in the soil. Long term we'd hope this results in more flexible farming rotations with other crops to allow for increased profit and opportunities for Australian farmers."

## CURRENT VACANCIES

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### **Vegetable Crops and Small Farms Advisor, Riverside County-Coachella Valley Office, USA**

The Cooperative Extension (CE) Advisor will develop and conduct research and extension programs focused on vegetable crop production in Riverside and Imperial Counties. Primary program areas include (1) the commercial vegetable crop production and (2) the small scale and minority crop production of the Coachella Valley, the Palo Verde Valley of Riverside County, and Imperial County as well as the limited vegetable production in Western Riverside. The CE Advisor will support growers and processors of such high-valued vegetable crops with problem solving, field consultations, and applied research. The goal of the research program should be to improve yields and production efficiency. As this region is the major supplier of cool-season vegetables in the winter, a focus on disease and pest management research is important to remain competitive on a statewide and national basis. To assure full consideration, application packets must be received by 26 June 2020. Further details about the position and how to apply are available in the [PDF](#).

## ACKNOWLEDGEMENTS

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Thanks to Charlie Delp, Raed Haleem, Grahame Jackson, Greg Johnson, Jan Leach, Faheem Uddin Rajer, and Ani Widiastuti for contributions.

## COMING EVENTS

### IX International Postharvest Symposium

Postponed – date to be announced

Rotorua, New Zealand

Website: [scienceevents.co.nz/postharvest2020](https://scienceevents.co.nz/postharvest2020)

### International Seed Testing Association Seed Health Workshop: Seed health methods to detect fungi, bacteria and viruses

Postponed – date to be announced

Pretoria, South Africa

Website: [www.seedtest.org/en/event-detail---0--0--0--111.html](https://www.seedtest.org/en/event-detail---0--0--0--111.html)

### Plant Health 2020 – APS Annual Meeting

8 August - 12 August, 2020 (dates to be confirmed)

Virtual event

Website:

[www.apsnet.org/meetings/annual/planthealth2020/Pages/default.aspx](https://www.apsnet.org/meetings/annual/planthealth2020/Pages/default.aspx)

### 13th Arab Congress of Plant Protection

1 November - 6 November, 2020

Le Royal Hotel, Hammamet, Tunisia

Contact: Dr. Asma Jajar, Chairperson of Organising

Committee [info@acpp-aspp.com](mailto:info@acpp-aspp.com)

Website: [acpp-aspp.com](https://acpp-aspp.com)

### 7th International Bacterial Wilt Symposium

3 November - 7 November, 2020

Montevideo, Uruguay

Website: [7ibws2020.fq.edu.uy](https://7ibws2020.fq.edu.uy)

### 16th Congress of the Mediterranean Phytopathological Union

17 November - 20 November, 2020

Limassol, Cyprus

Website: [cyprusconferences.org/mpu2020](https://cyprusconferences.org/mpu2020)

### 7th International Conference of Pakistan Phytopathological Society

29 November - 1 December, 2020

University of Agriculture Faisalabad and Ayub

Agricultural Research Institute, Faisalabad, Pakistan

Website: [pakps.com/web/7icpps](https://pakps.com/web/7icpps)

### 4th International Conference on Global Food Security

6 December - 9 December, 2020

Montpellier, France

Website: [www.globalfoodsecurityconference.com](https://www.globalfoodsecurityconference.com)

### 10th International IPM Symposium

15 March - 18 March, 2021

Denver, Colorado, USA

Website: [ipmsymposium.org/2021](https://ipmsymposium.org/2021)

### 7th International Congress of Nematology

25 April - 30 April, 2021

Antibes Juan-les-Pins, France

Website: [www.alphavisa.com/icn/2020/index.php](https://www.alphavisa.com/icn/2020/index.php)

### International Symposium on Cereal Leaf Blights

19 May - 21 May, 2021

Hammamet, Tunisia

Website: [www.isclb2021.com](https://www.isclb2021.com)

### 4th International *Erwinia* Workshop

5 June - 6 June, 2021

Assisi, Italy

### Joint 18th International *Botrytis* Symposium & 17th International *Sclerotinia* Workshop

7 June - 11 June, 2021

Avignon, France

Website: [colloque.inra.fr/botrytis-sclerotinia-2020](https://colloque.inra.fr/botrytis-sclerotinia-2020)



**14<sup>th</sup> International Conference on Plant Pathogenic Bacteria**

6 June - 11 June, 2021

Assisi, Italy

Website: [www.icppb2020.com](http://www.icppb2020.com)

**International Plant Health Conference “Protecting Plant Health in a changing world”**

28 June - 1 July, 2021

Paasitorni Conference Centre, Helsinki, Finland

Website: [www.fao.org/plant-health-2020/events/events-detail/en/c/1250609/](http://www.fao.org/plant-health-2020/events/events-detail/en/c/1250609/)

**11<sup>th</sup> Australasian Soilborne Diseases Symposium**

Mid-late 2022

Cairns, Queensland, Australia

Website: [asds2020.w.yrd.currinda.com](http://asds2020.w.yrd.currinda.com)

**XX International Plant Protection Congress**

10 June - 15 June, 2023

Athens, Greece

Website: [www.ippcathens2023.gr](http://www.ippcathens2023.gr)

**12<sup>th</sup> International Congress of Plant Pathology (ICPP2023)**

20 August - 25 August, 2023

Lyon, France

Website: [www.icpp2023.org](http://www.icpp2023.org)



INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY (ISPP)



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The ISPP List is an e-mail list server which broadcasts messages and announcements to its subscribers. Its goal is to facilitate communication among members of the International Society for Plant Pathology and its Associated Societies. Advertised vacancies in plant pathology and ISPP Newsletter alerts are also sent to members of the ISPP List.

In accordance with the guidelines and recommendations established by the new EU General Data Protection Regulation 679/2016 (GDPR), the International Society for Plant Pathology has created a [Privacy Information Notice](#) containing all the information you need to know about how we collect, use and protect your personal data.

This policy explains when and why we collect personal information about our users, how we use it, the conditions under which we may disclose it to third parties, how we keep it safe and secure and your rights and choices in relation to your personal information.

Should you need further information please contact [business.manager@issppweb.org](mailto:business.manager@issppweb.org)

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