

Electrostatic Sprayers Find New Use During Pandemic

University of Georgia



As the world began to reopen during the COVID-19 pandemic, scientists looked for ways to limit the spread of germs on high-touch surfaces. They had to look no further than their garden sheds, where a common pesticide sprayer, once used to keep the insects at bay, was now joining the fight against COVID-19 and other contagious diseases.

S. Edward Law, D.W. Brookes Distinguished Professor Emeritus at The University of Georgia, a member of the National Academy of Engineering, and Fellow of the National Academy of Inventors, created the Electrostatic Sprayer in 1977 to apply agricultural pesticides that reduced the amount of chemical needed, minimizing adverse environmental impacts.

Electrostatic sprayers work by charging the antimicrobial liquid as it passes through a nozzle. The positively charged antimicrobial droplets are attracted to negatively charged environmental surfaces allowing for improved coverage on hard, non-porous environmental surfaces.

Following the onset of the COVID-19 pandemic, electrostatic sprayers were widely deployed in schools and other institutions, not only to improve the coverage of sanitation sprays, but to minimize the amount of chemicals needed to maintain cleanliness. In July 2020, the U.S. Environmental Protection Agency (EPA) issued guidance for using the electrostatic sprayers in the fight against Covid.



“It’s been satisfying to see the physics get embodied into safe and reliable electrostatics products that can be put to meaningful use,” Law said. “It’s only useful to humanity if we can transfer the technology to the public. That’s the fun of the engineering process.”

These developments were carried out by the licensee, through the incorporation of the licensed technology. Therefore, being IP developed by the licensee, these developments have not been the subject of interactions between the inventor and our office, nor did they lead to additional patents assigned to the university, even if they incorporate the previously patented technology.

Law aided in the development/assessment of the implementation of the sprayer as a tool to combat the spread of COVID and other pathogens. Once developed, the EPA expedited the review of the product and approved the change in label to allow for uses beyond pesticides.

“Dr. Law’s work with the EPA to create new guidelines to meet the needs of the COVID-19 pandemic were instrumental in creating a new use for an already successful product,” said Gennaro Gama, Senior Technology Licensing Manager at the University of Georgia.

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