

Materials List for:

Controlled-release of Chlorine Dioxide in a Perforated Packaging System to Extend the Storage Life and Improve the Safety of Grape Tomatoes

Xiuxiu Sun^{1,2}, Elizabeth Baldwin¹, Anne Plotto¹, Jan Narciso¹, Christopher Ference¹, Mark Ritenour², Ken Harrison³, Joseph Gangemi³, Jinhe Bai¹

¹USDA, ARS, USHRL

²Indian River Research and Education Center, University of Florida

³Worrell Water Technologies, LLC

Correspondence to: Jinhe Bai at jinhe.bai@ars.usda.gov

URL: <https://www.jove.com/video/55400>

DOI: [doi:10.3791/55400](https://doi.org/10.3791/55400)

Materials

Name	Company	Catalog Number	Comments
Curoxin® chlorine dioxide pouch	Worrell Water Technologies		Slurry, a.i. 9.5% in sealed semi-permeable polymer film
Grape tomato	Santa Sweets, Inc		Santa Sweets Authentic
ClO ₂ gas detector	Analytical Technology, Inc., Collegeville, PA		PortaSens II
Perforated clamshell	Packaging Plus LLC, Yakima, WA		OSU #1, 1 lb
<i>Escherichia coli</i>			Wild Type (WT) from fruit surface
<i>Alternaria alternata</i>			from fruit surface
<i>E. coli</i> agar	EC Broth, Oxoid, UK		EC Broth with 1.5% agar
Potato dextrose agar	BD Difco, Sparks, MD		
Levine eosin methylene blue agar	BD Difco, Sparks, MD		
Trigger spray bottle	Impact Products, LLC., Toledo, OH		
Sterilized sampling bag	Fisherbrand, Fisher Scientific, Pittsburgh, PA		
Orbit shaker	New Brunswick Scientific, New Brunswick, NJ		Innova 2100
IUL Instruments Neutec Eddy jet spiral plater inoculation plating system	Neutec Group Inc., Farmingdale, NY		
EZ micro optical plate reader	Synoptics, Ltd., Cambridge, UK		ProtoCOL
Fruit firmness tester	Bioworks Inc, Wamego, KS		FirmTech 2
Tinytag temperature and RH data logger	Gemini Data Loggers, West Sussex, UK		
McFarland equivalence turbidity standard	Fisherbrand, Fisher Scientific, Pittsburgh, PA		