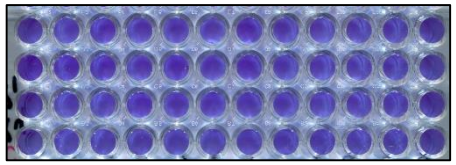
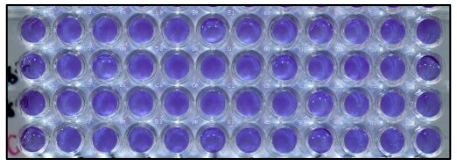
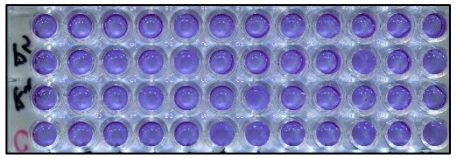
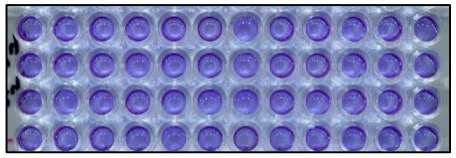
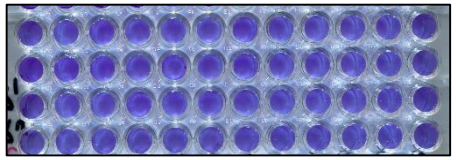
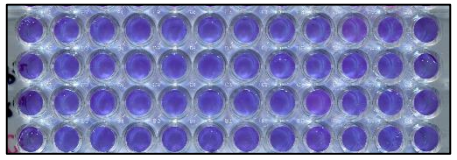
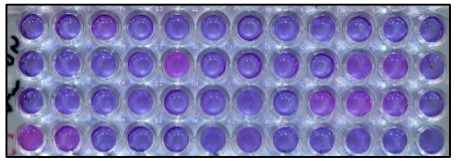
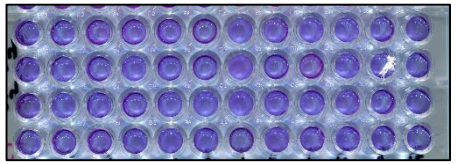
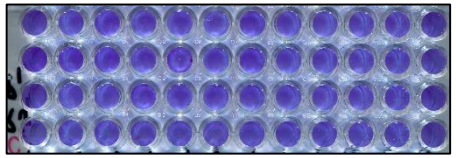
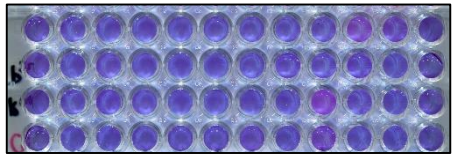
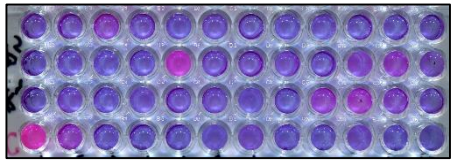
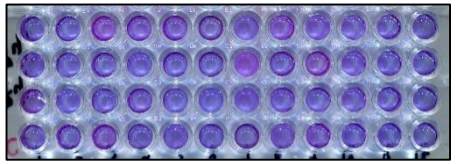
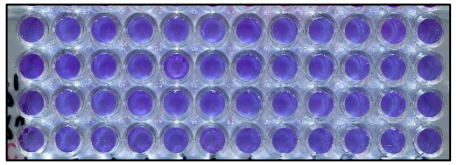
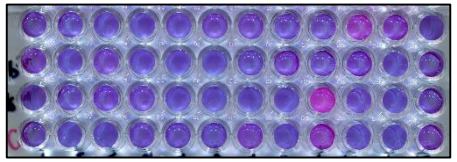
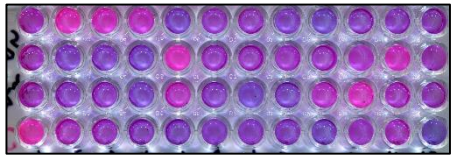
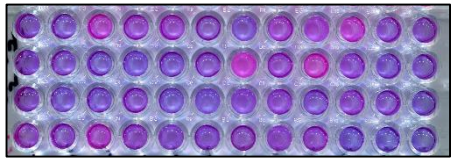
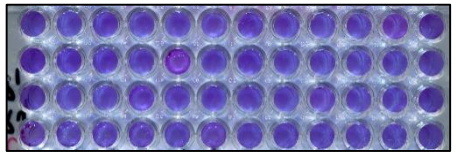
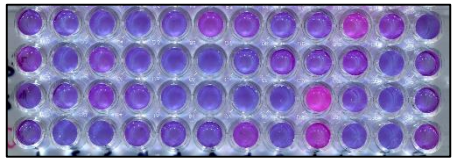
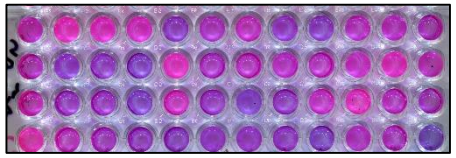
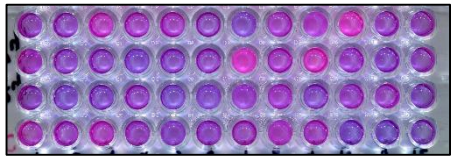
Supplemental Figure 1. Images of well plates for the colorimetric assay for detecting mechanical damage on weed seeds. Mechanically damaged and non-damaged seeds were individually steeped in deionized water for 12 h. Then, 50 µL of steepate was transferred to a well-plate (1 seed steepate well^{-1}) and mixed with 2 µL of 0.1% aqueous solution of resazurin (7-Hydroxy-3H-phenoxazin-3-one-10-oxide) sodium salt. Plates were imaged at 2 h, 5 h, 20 h, and 40 h after the initial mixing of steepate and resazurin solutions.

Explanation of Bayer codes: AMAPA = Palmer amaranth, *Amaranthus palmeri* S. Watson; ANVCR = spurred anoda, *Anoda cristata* (L.) Schltdl.; DATFE = oakleaf datura, *Datura quercifolia* Kunth; ECHCG = barnyardgrass, *Echinochloa crus-galli* (L.) P. Beauv.; ECHCO = junglerice, *Echinochloa colona* (L.) Link; ERAME = stinkgrass, *Eragrostis cilianensis* (All.) Vignolo ex Janch; KCHSC = kochia, *Bassia scoparia* (L.) A. J. Scott; PHBPU = tall morningglory, *Ipomoea purpurea* (L.) Roth; RUMCR = curly dock, *Rumex crispus* L.; SETPU = yellow foxtail, *Setaria pumila* (Poir.) Roem. & Schult.

Explanation of seed damage treatments: Abraded = scarified with coarse sandpaper; Pierced = punctured with sharp-pointed, stainless steel, dissecting needle; Ground = struck once with metallic mortar and pestle (tall morningglory, oakleaf datura, spurred anoda) or blunt metallic rod (kochia, yellow foxtail, barnyardgrass, junglerice, curly dock, Palmer amaranth, stinkgrass); Sliced = cut with singled-edged razor blade under a dissecting microscope

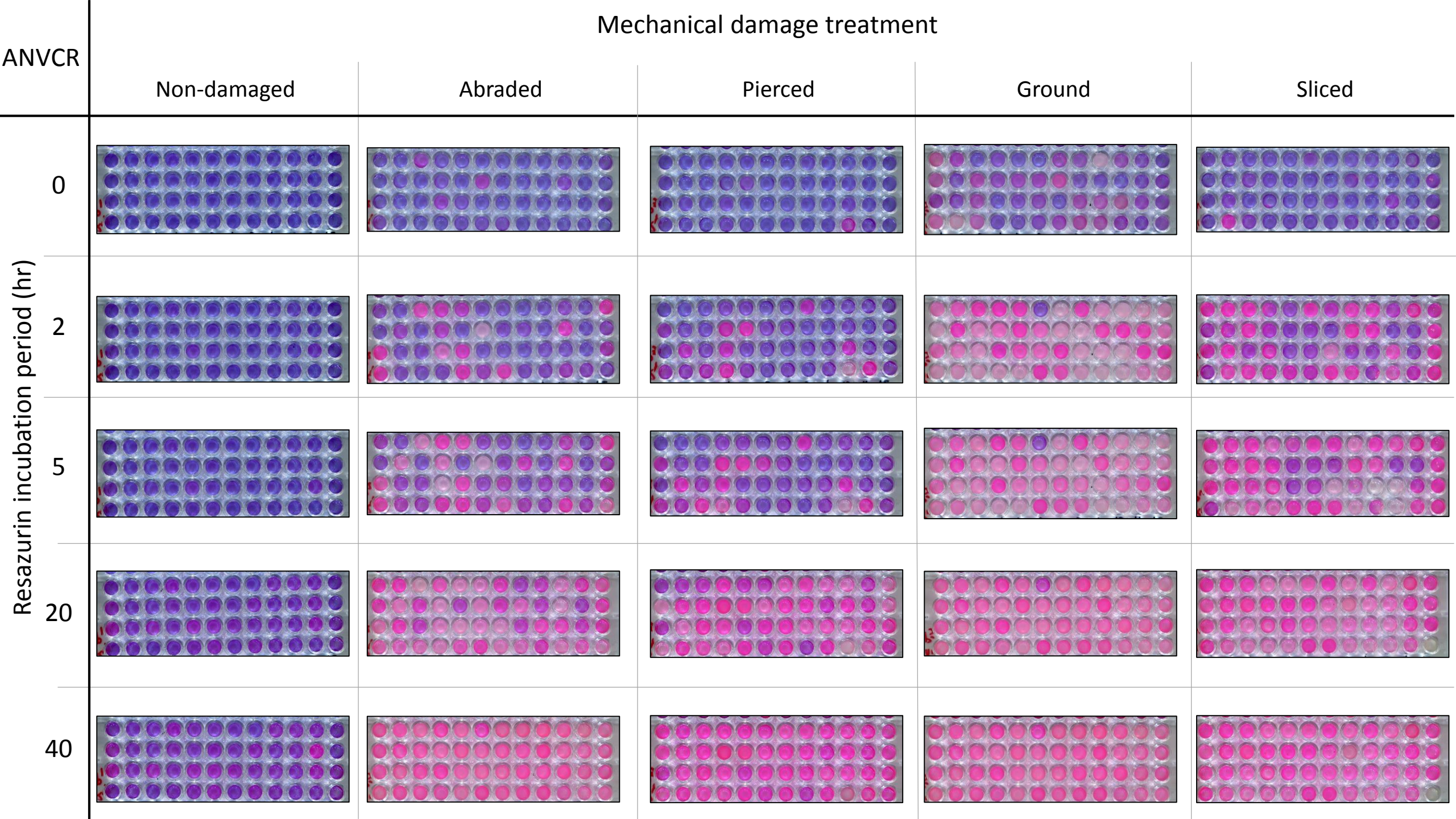
AMAPA

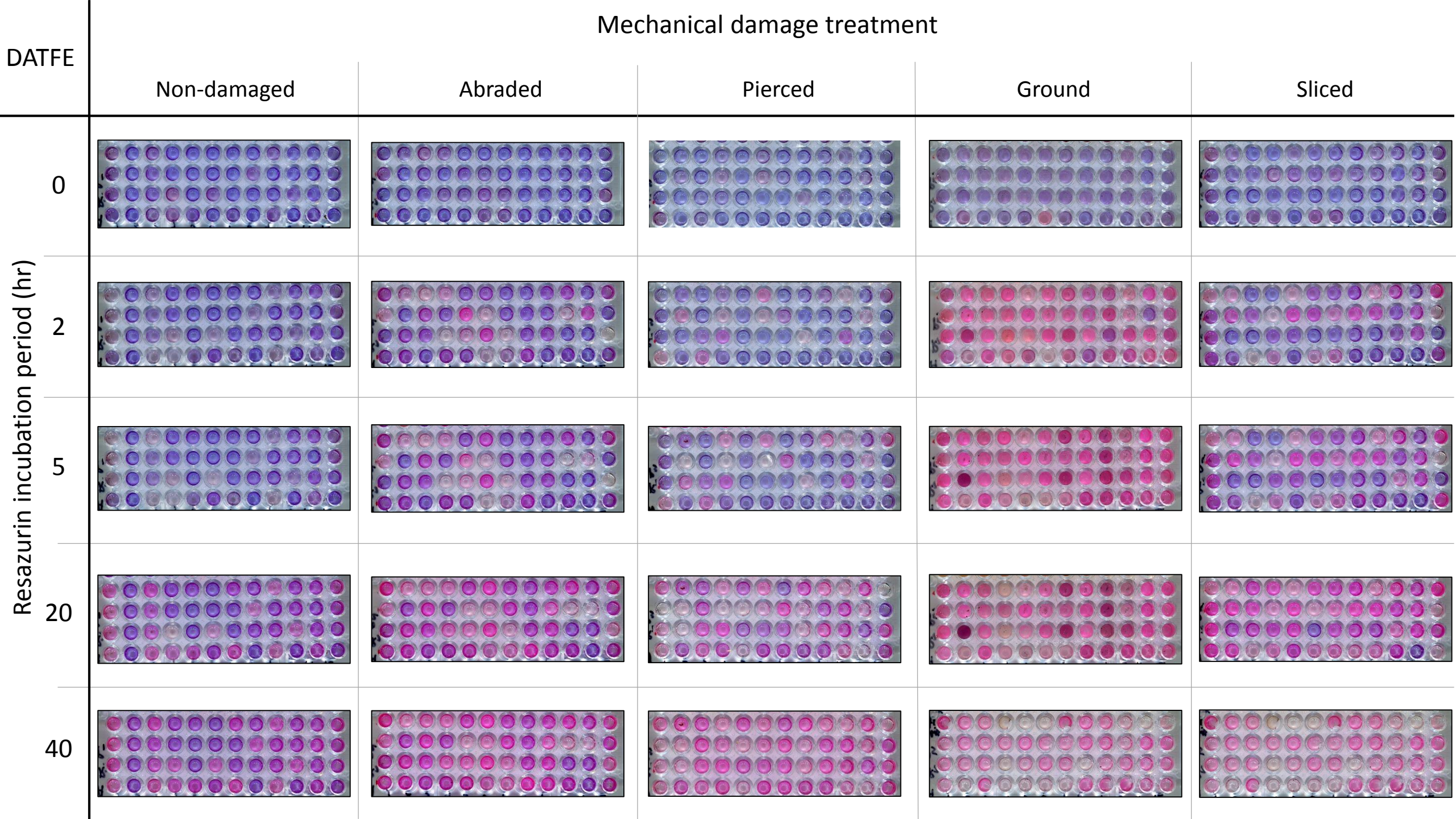
Mechanical damage treatment

Resazurin incubation period (hr)	Non-damaged	Abraded	Pierced	Ground	Sliced
0			--		
2			--		
5			--		
20			--		
40			--		

ANVCR

Mechanical damage treatment

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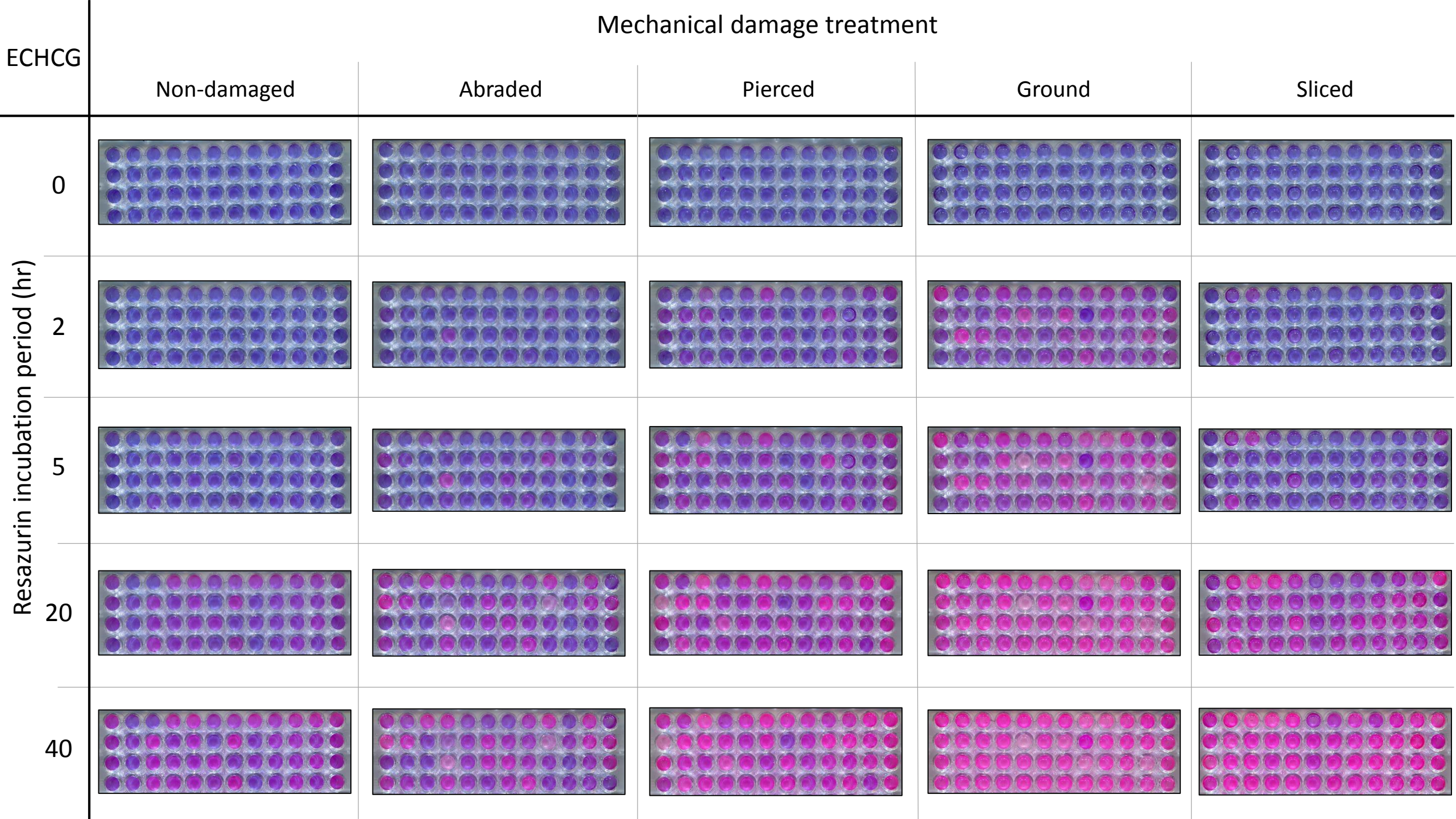
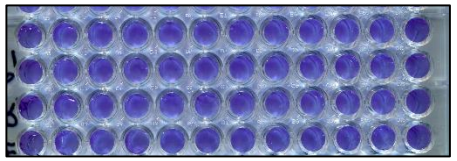
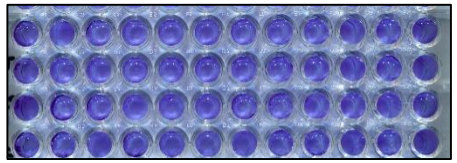
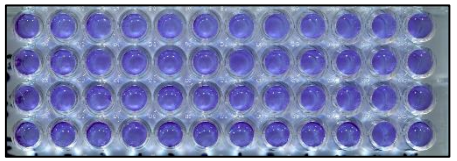
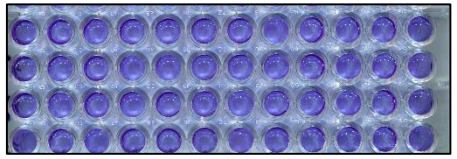
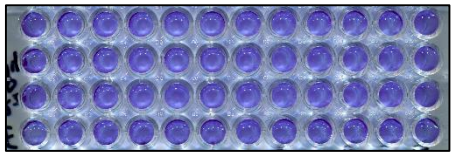
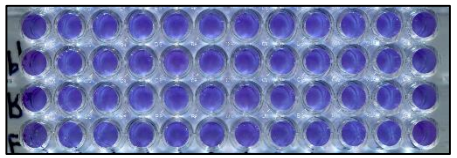
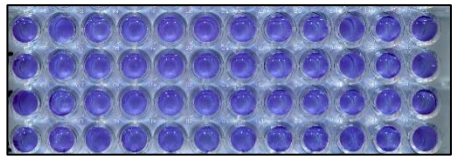
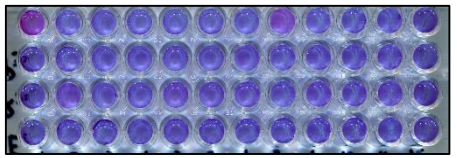
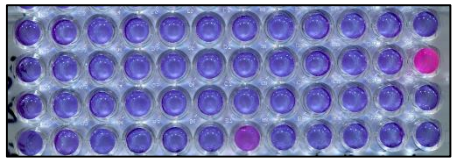
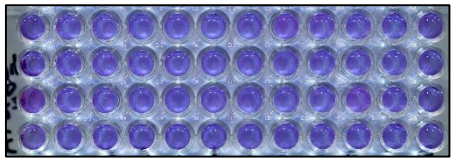
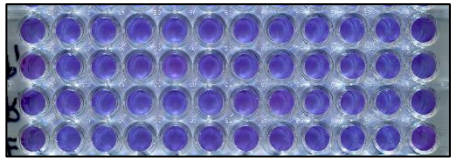
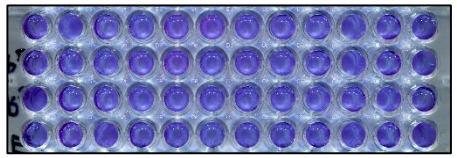
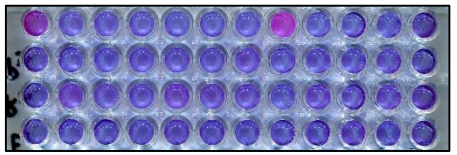
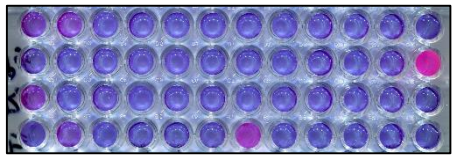
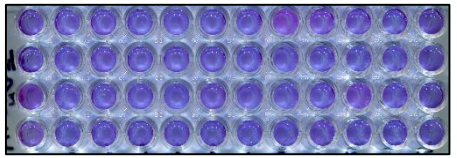
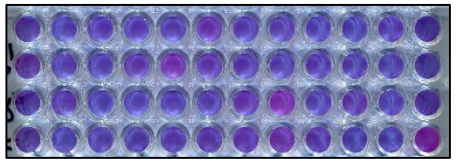
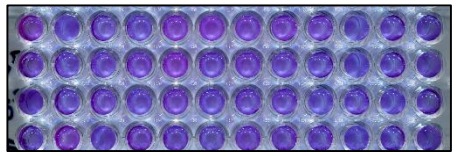
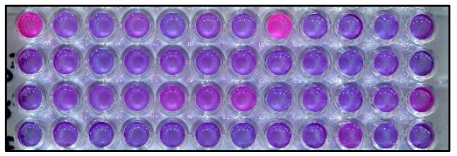
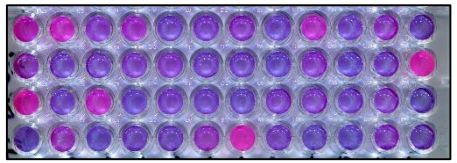
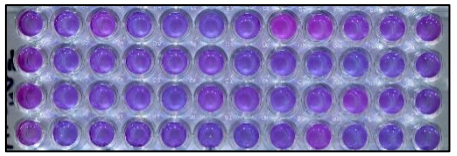
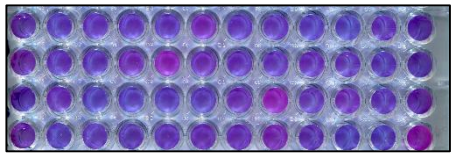
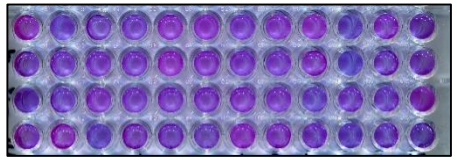
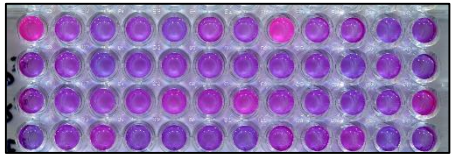
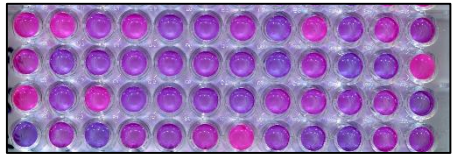
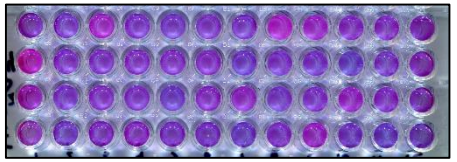
Mechanical damage treatment
Non-damaged
Abraded
Pierced
Ground
Sliced
Resazurin incubation period (hr)
0
2
5
20
40


ECHCG
Mechanical damage treatment
Non-damaged
Abraded
Pierced
Ground
Sliced
Resazurin incubation period (hr)
0
2
5
20
40

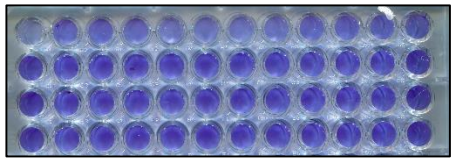
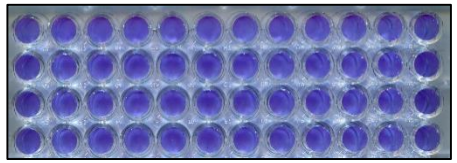
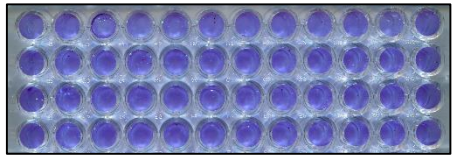
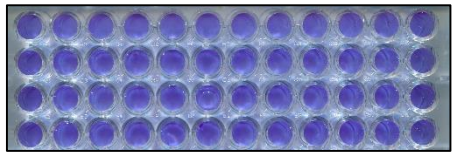
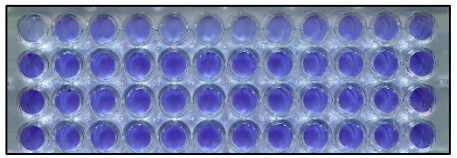
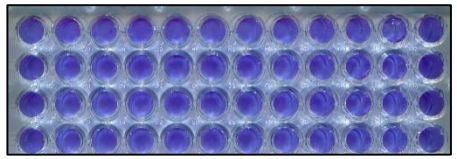
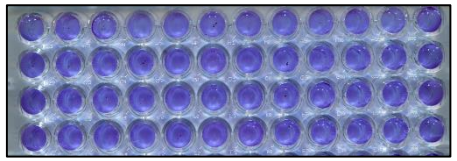
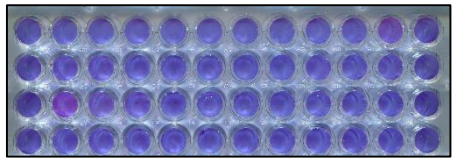
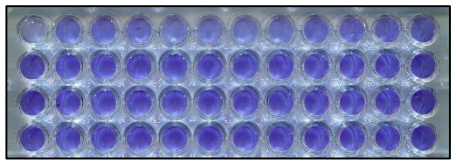
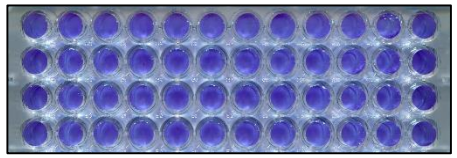
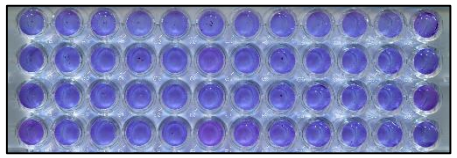
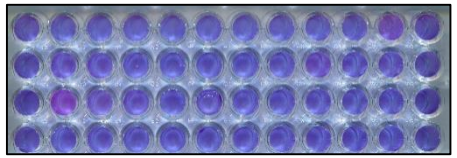
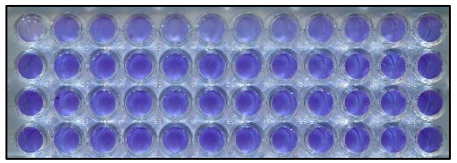
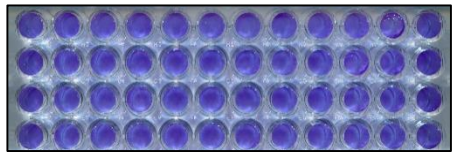
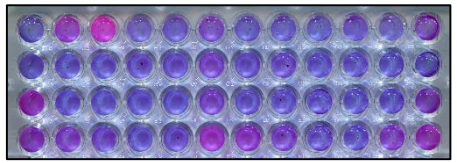
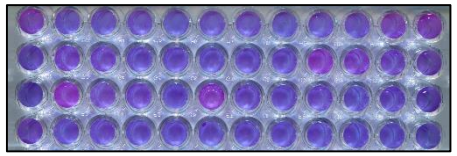
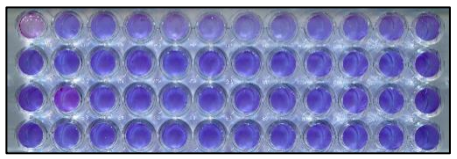
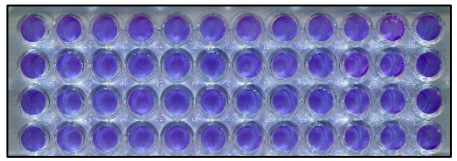
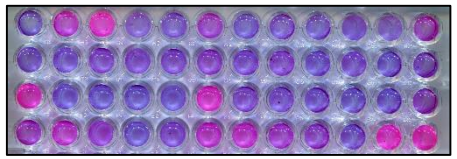
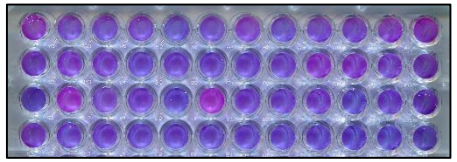
ECHCO

Mechanical damage treatment

Resazurin incubation period (hr)	Non-damaged	Abraded	Pierced	Ground	Sliced
0					
2					
5					
20					
40					

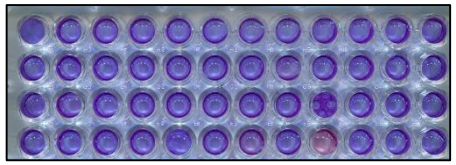
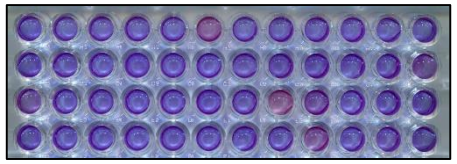
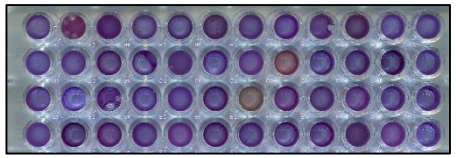
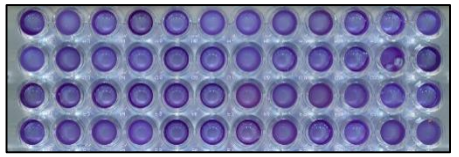
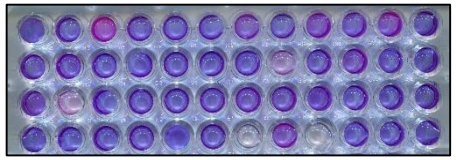
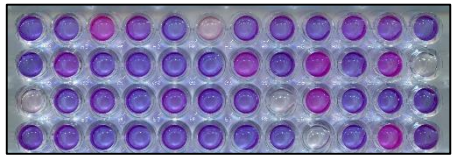
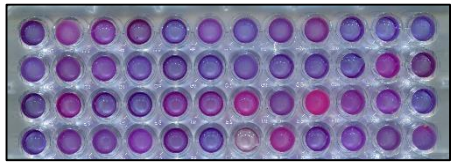
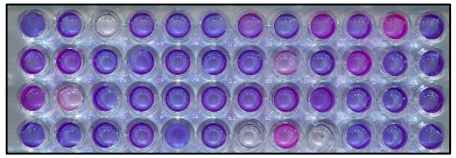
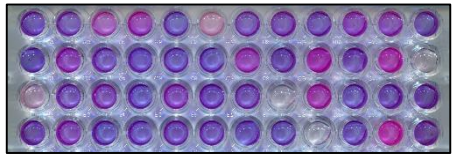
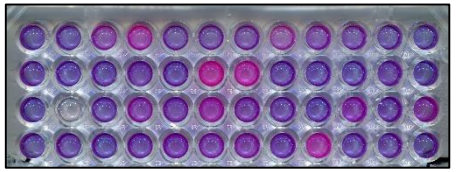
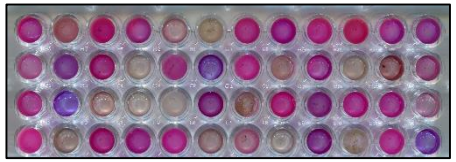
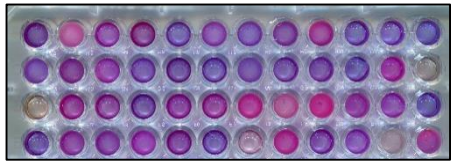
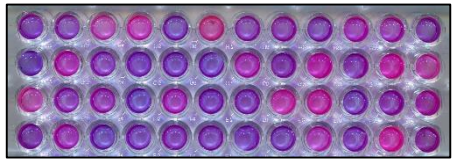
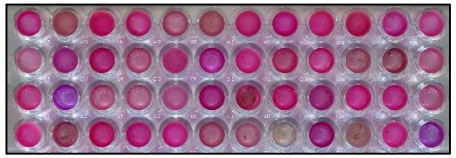
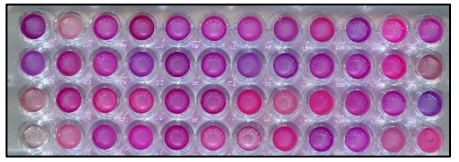
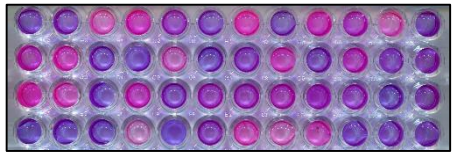
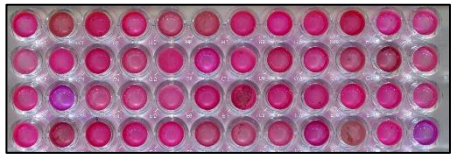
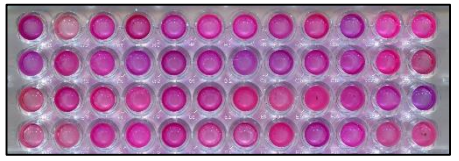
ERAME

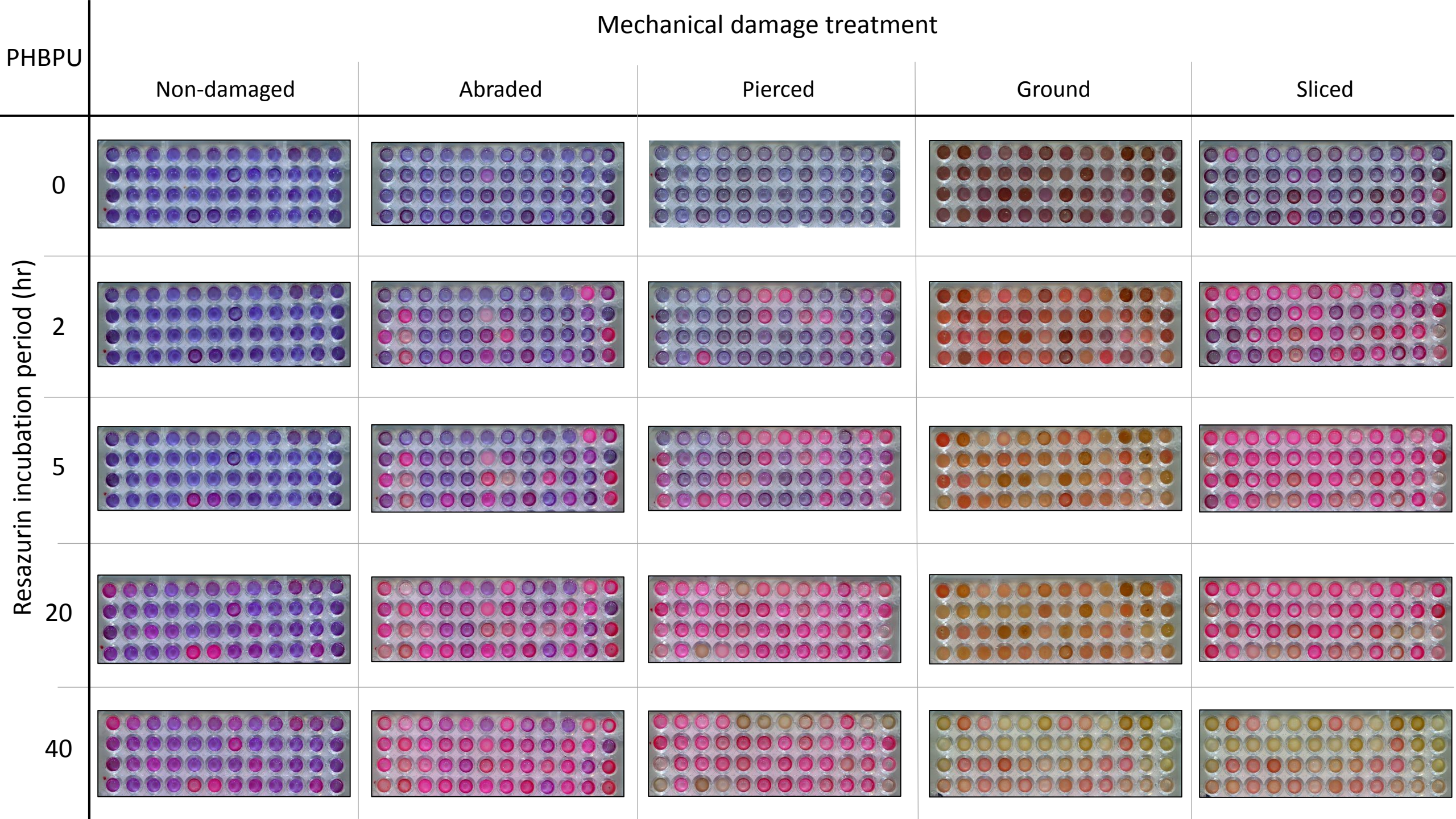
Mechanical damage treatment

Resazurin incubation period (hr)	Non-damaged	Abraded	Pierced	Ground	Sliced
0			--		
2			--		
5			--		
20			--		
40			--		

KCHSC

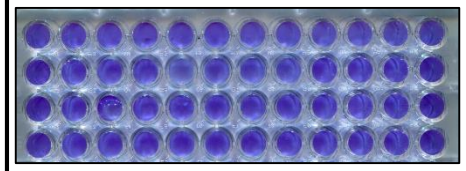
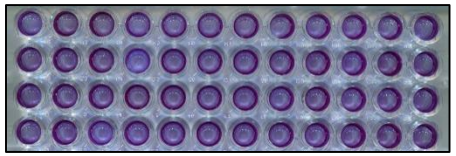
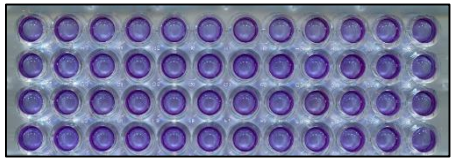
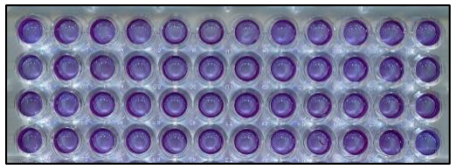
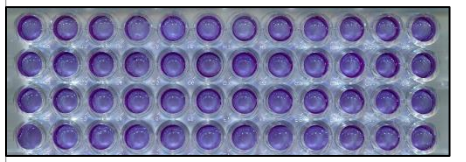
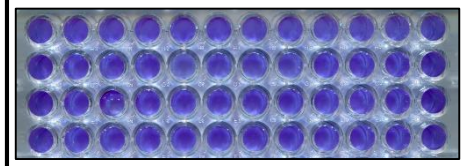
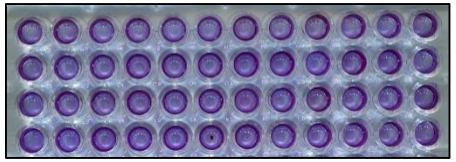
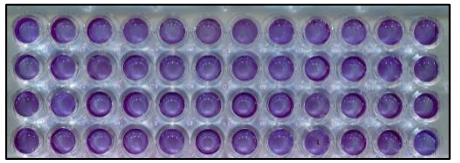
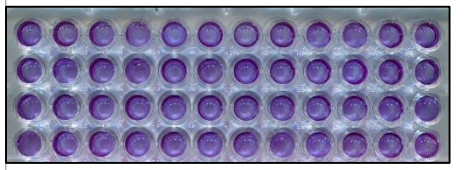
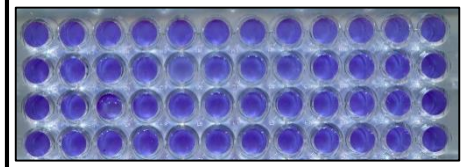
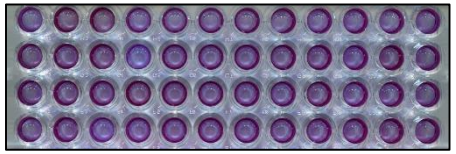
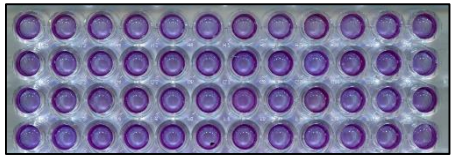
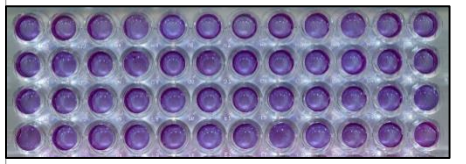
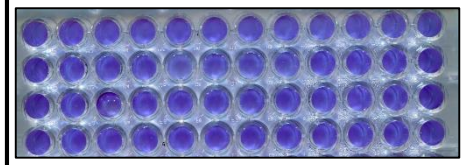
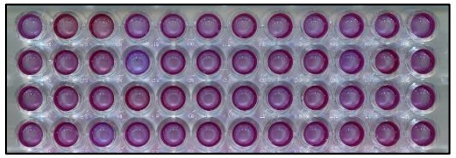
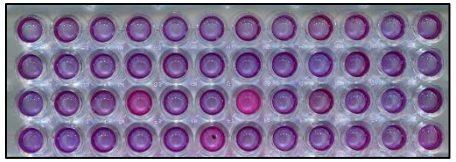
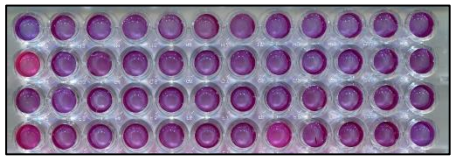
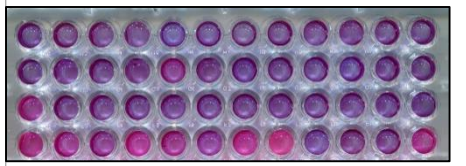
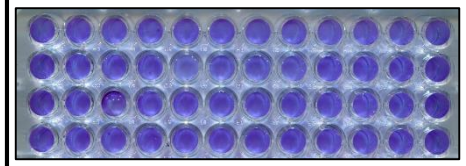
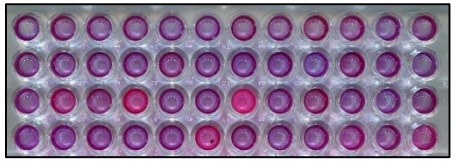
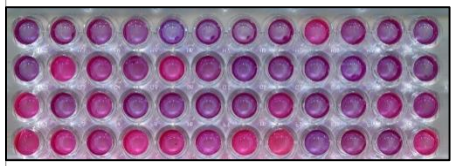
Mechanical damage treatment

Resazurin incubation period (hr)	Non-damaged	Abraded	Pierced	Ground	Sliced
0					
2					
5					
20					
40					


PHBPU
Mechanical damage treatment
Non-damaged
Abraded
Pierced
Ground
Sliced
Resazurin incubation period (hr)
0
2
5
20
40

RUMCR

Mechanical damage treatment

Resazurin incubation period (hr)	Non-damaged	Abraded	Pierced	Ground	Sliced
0					
2					
5					
20					
40					

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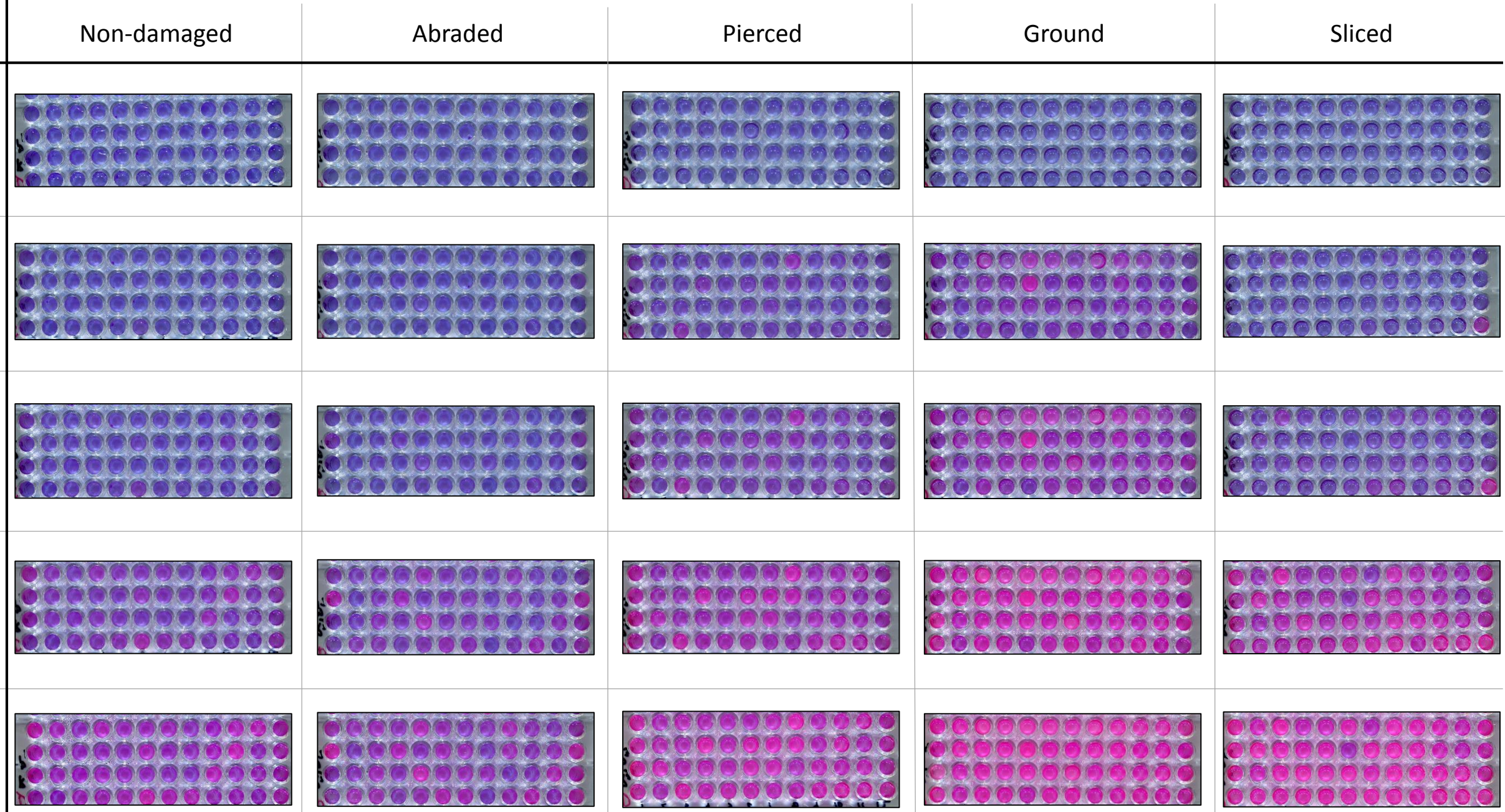
Mechanical damage treatment