

## [P3] Abiotic Stress for Crop Production

2021年9月9日(木) 12:15 ~ 14:00 Room 3 (Poster) (Abiotic Stress for Crop Production)

12:15 ~ 13:00

### [P3-07] The Effect of Ultra-Fine Bubble on Soybean Growth under Osmotic Stress Condition

\*Nominated for Presentation Awards

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Ultrafine bubbles (UFB) exhibit a number of unique physical characteristics; however, reports on plant growth enhancement by UFB application are controversial. In the series of our former studies, we proved that the nutrient condition of plant growth medium is the key factor to govern the effects of UFB on young soybean seedlings. When no nutrients were supplied, positive effects of UFB water were evident, but low nutrition reduced UFB water-mediated growth enhancement and high nutrition totally obliterated any growth enhancement by UFB water. The purpose of this presentation is to clarify whether the UFB application mitigates the effects of drought stress on soybean plants. A simple experimental system based on hydroponic culture was used to evaluate the effect of UFB on the early growth of soybean seedlings under higher osmotic stress environment. In conclusion, UFB water-induced growth enhancement was effective and significant under the nutrient deficit and osmotic stress. Additional research is necessary to analyze drought stress and UFB application using soil cultured plants.