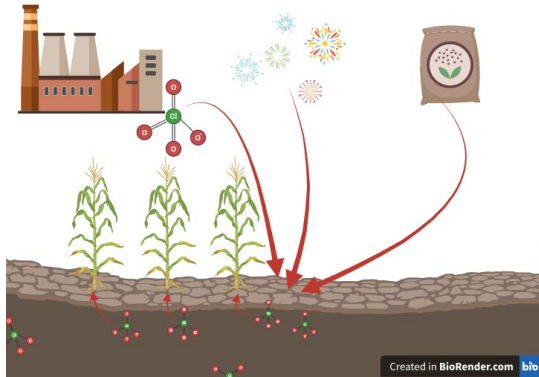


Aerobic bioremediation of perchlorate contamination via a novel *Pseudomonas stutzeri* construct

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- Achieving *in situ* bioremediation of perchlorates via genetically engineered *P. stutzeri* bacterium
- Uses 3 step reduction pathway to produce chloride and oxygen
- Circumventing oxygen competition with FDP system in second plasmid
- CO₂, H₂O and biomass produced as by-products



Sources

- Fireworks**
Perchlorate used as oxidizer
- Munitions**
Rocket fuel & explosives
- Fertilizer**
Chilean nitrate deposits

Effects

- Plant damage**
Chlorosis (yellowing), necrosis, leaf tip burn, reduced germination
- Human health**
Inhibits thyroid iodine uptake that cause risk to pregnancy and child development

