

Ergonomic and Biomechanical Evaluation of Mechanical and Robotic Strawberry Harvest Aids

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Problem: Workers who harvest strawberries can suffer from musculoskeletal disorders, especially low back disorders (LBD). Interventions to reduce LBDs, while maintaining acceptable productivity levels are needed.

Project Overview: This project evaluates the ergonomics, biomechanics, and productivity of using mechanical and robotic strawberry harvest-aids to protect workers from LBDs while maintaining yields.

Progress to date: The researchers built a personal harvest aid for use with a standard strawberry picking cart. The device measures the harvest weight and is linked to a GPS module to produce yield maps. The team also produced surveys to assess musculoskeletal status in workers while using the harvest aid in comparison to traditional strawberry picking.

Anticipated Project Outputs: Project results will provide engineers and strawberry growers with information on the optimal balance between productivity and workers' health, guidelines for speed settings of large, multi-person harvest-aid machines, and rest breaks for crews.

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