Picking Pickles Made Easier

Issue (Who Cares and why)
Current pickle harvesting methods cause about 11 percent in crop loss. In addition, current methods fail to remove some dirt and damage occurs in about 8 percent of the harvested product. Header loss results in significant yield/profit reduction, and excess dirt raises pickle hauling and processing expenses. Also, damaged pickles reduce grower profits and increase processor labor costs.

What has been done?
A tractor-mounted pickling cucumber harvester was built as a testing platform for harvesting concepts. An improved rod chain over fingered chain pickup attachment was developed to improve product recovery and overall harvest speed. A rodded chain conveyance system also was developed to reduce dirt and damage. Several cleaning system modifications to minimize vine/leaf content with minimal product damage were also created. Studies were conducted to determine the optimal separation roll lagging and speed configuration.

Impact
The new rod-chain-over-fingered-chain-pickup attachment recovered approximately 8.5 percent more product than traditional pickup designs at 0.2 mph faster speed. This 17 bu./acre increase in recovery has a value of approximately $60 per acre. With 6,000 acres of pickles grown on Delmarva the potential value of this improved header design exceeds $360,000 per season. The cleaning, conveyance, and separation system has enabled Delmarva pickle growers to maintain their reputation for providing the best machine-harvested pickles in the country. The overall value of these modifications is in the form of reduced operator fatigue, reduced harvester maintenance, improved product quality and a reduction of grower and processor labor costs. Local growers have begun implementing the new designs as have a number of growers in Michigan, Wisconsin, North Carolina, and Missouri.

Primary Impact Areas
Extension

Funding Sources
State Cooperative Extension

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