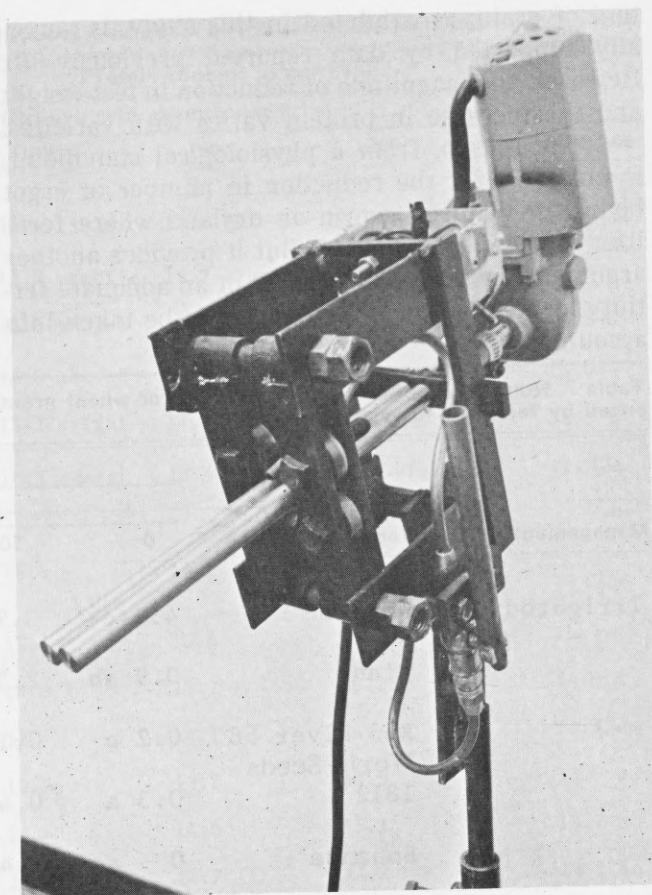


AGRICULTURAL ENGINEERS MANUFACTURE LEAF SQUEEZING MACHINE



NDSU LEAF SQUEEZER

R. C. Hastings, Henry L. Kucera, and Everett Tool

Extracting juice from plant leaves for laboratory purposes can be a time-consuming task, especially if done by hand with a pair of pliers. This was one of the methods used by personnel at North Dakota State University until the "NDSU Leaf Squeezer" was built.

During a trip to Europe, R. C. Hastings of the North Dakota State Seed Department observed several machines for removing extract from plant leaves. Realizing a possible savings in time and labor in his department, he tried to purchase a similar machine after returning to the USA. There were no machines of this type on the market.

In cooperation with the Department of Agricultural Engineering, a pilot model was built. After

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one season's use, some possible improvements were noted, and a second model was constructed.

The machine consists of two counter rotating, stainless steel shafts held together by antifriction bearings. In operation, a leaf is fed between the rollers, wraps around the rollers, and continues to be pressed until enough juice is collected on the rolls to be sampled. The debris from the leaf is then washed off the rolls with a built-in water system, and a new run is started. The rolls are driven at approximately 100 rpm by a 1/15 hp, 110 volt gearhead motor connected directly to one roll. A set of gears drives the other roller. Tension on the rolls is adjusted by bolts holding the supporting bearing frame.

Overall cost is less than \$100.00, with the gearhead motor and labor being the major cost items. Plans are available at the Department of Agricultural Engineering, North Dakota State University, Fargo, 58102.