

Synthetic mulch improves yield, repels insects

BELTSVILLE, Md. - To mulch or not to mulch. That is the question of many small-acreage farmers trying to decide whether to use synthetic mulches, which have been in use by owners of large vegetable farmers for several years. Yield data from studies done by researchers of the USDA's Science and Education Administration may help them decide.

Horticulturist Allan K. Stoner and his colleagues at the Beltsville Agricultural Research Center in Maryland compared several commercially available mulches with no mulch to obtain information useful to those who have not yet tried the synthetic material.

Average yields were higher and vegetables were usually larger from experimental plots covered with mulch than from the uncovered plots, and some crops were harvested earlier from the mulched plots. All of the mulches tested reduced the number of aphids infesting plants. And, since all the mulches tested were opaque, they prevented weed growth around the vegetables.

The studies were carried out over a 2-year period. During the 1977 growing season scientists tested one mulch, aluminum bonded to

brown wet-proof paper, on four kinds of vegetables (lettuce, cabbage, squash, and cucumbers) and compared yields with plots containing the same number of plants but left uncovered.

The mulched plots produced heads of iceberg lettuce that weighed three times more than those grown on bare soil and cabbage weight was up 49 per cent. Yields of acorn squash were 26 per cent higher in the mulched plots and the average weight of each squash was up 9 per cent. The aluminum-mulched plots also produced 82 per cent more pickling cucumbers. More significantly, twice as many cucumbers were harvested early (by July 13) from the mulched plots. "This could give farmers a jump on the market when prices are still high," says Stoner.

In 1978 the researchers collected data on yield, insect repellency, and soil temperature from muskmelon plots covered with four synthetic mulches: black polyethylene, white polyethylene bonded to black polyethylene, aluminum embossed on black polyethylene, and the aluminum-brown paper mulch tested the previous year. The same data was also collected from un-

mulched plots for comparison.

The largest number of muskmelons (117) were harvested from the black polyethylene plots with aluminum-brown paper plots producing the second highest yield (99). Unmulched plots produced 92 muskmelons.

Plots mulched with black polyethylene and those covered with aluminum-black polyethylene produced 29 per cent of the crop before August 15. White polyethylene-black polyethylene mulched plots scored second in early fruiting.

A comparison of individual fruit weight shows white polyethylene-black polyethylene leading at 4.7 pounds. However, these plots produced the same number of muskmelons as the unmulched plots. Aluminum-brown paper produced muskmelons averaging 4.6 pounds and the black polyethylene mulched plots yielded the small muskmelons averaging 4.1 pounds, slightly smaller than those from unmulched plots.

Soil temperature was highest under the black polyethylene on both cloudy days and sunny days. Stoner considers it "the best all around conventional mulch" because, it absorbs heat

causing seeds to germinate earlier and grow faster which results in bigger yields and earlier harvests. And, in areas where the growing season is long enough, fields can be double-cropped to produce an early crop and a late crop in the same mulch.

"But if I had serious disease problems, I'd use aluminum," says Entomologist Floyd F. Smith. Reflective mulches have long been known to repel sucking insects which transmit virus diseases from plant to plant.

(Turn to Page 107)

MEMO HAY, STRAW & EAR CORN SALE

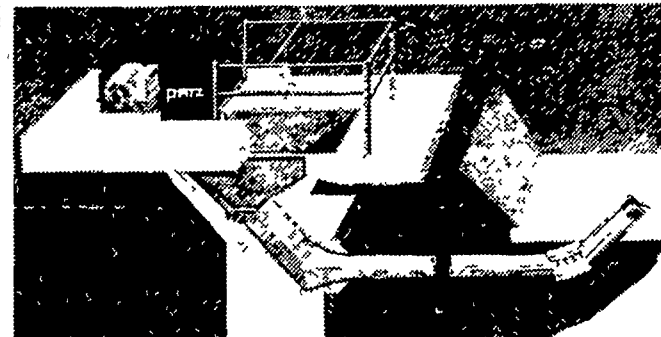
EVERY MONDAY AT 11 A.M.
EVERY WEDNESDAY 12:00 NOON
NEW HOLLAND SALES STABLES, INC.
Phone 717-354-4341
Lloyd H. Kreider, Auct.

PATZ Manure Handlers



Simple, Easy and Conveniently Out-of-the Way!

The old strongarm method of Manure Handling gives way to new muscle from PATZ — namely the Slurry Manure Pump and compressed-air Liquid Manure Mover. These modern methods of manure movement provide simplicity, rugged construction, operational ease, dependability, plus convenience.



Slurry Manure Pump

Slurry or free flowing manure is pumped from a 180 gallon hopper under ground through 12 in PVC pipe to the manure holding area (If bedding is used only fine cut is recommended) Stroke is adjustable and driven by tough roller chain drive/reduction unit. Plunger sleeve, and one-way valves all can be removed for servicing.



Liquid Manure Mover

Big 1700 (US) gallon below-ground pressure vessel collects slurry that is moved simply and easily by as little as 10-12 lbs of air pressure through 12 in PVC pipe to manure storage area. Simplicity in design turning swing-away hatch cover, one-way valve at bottom and flapper valve at the discharge end are the only moving parts.

get the PATZ facts first

MARYLAND DEALERS

EASTON, MD
WALTER J. HARMSSEN
301-822-3085

KENNEDYVILLE, MD
PINDER SERVICE CO.
301-348-5263

NEW WINDSOR, MD
TRI-COUNTY FARM AUTOMATION
301-775-7365

HAGERSTOWN, MD
TRI-STATE FARM AUTOMATION
301-790-3698

LINEBORO, MD
WERTZ GARAGE, INC
301-374-2672

STREET, MD
WALTER WEBSTER
301-452-8521

COLD WEATHER COLD CASH SAVINGS!

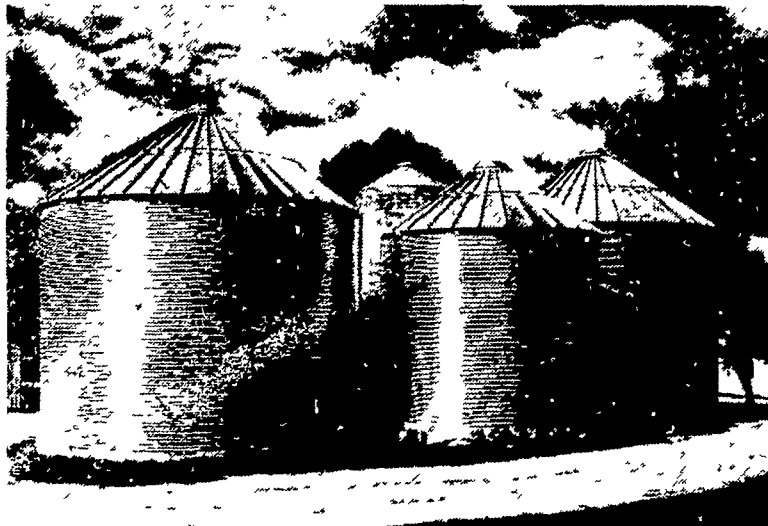


ON EVERY WINTER PURCHASED BIN

See your BROCK dealer and buy your new Brock grain bin.

Winter time is the best price time. It is also the time to order to make sure your bin is erected and ready for the next harvest.

There's cold cash to be saved now.



BROCK

SEE HOW MUCH YOU CAN SAVE BY SEEING YOUR BROCK DEALER

H HERSHEY EQUIPMENT COMPANY, INC.

SYCAMORE IND. PARK
255 PLANE TREE DRIVE
LANCASTER, PA. 17603
(717) 393-5807

Route 30 West at the Centerville Exit

Designers of Quality Systems for Poultry, Swine and Grain Handling.