

# PIK fields may have problem

WAYNE, N.J. — Corn fields diverted in 1983 to the USDA PIK (Payment in Kind) set-aside program could harbor a serious treat to 1984 corn crops, a survey by American Cyanamid Company indicates.

Survey results from 112 fields in nine midwestern states showed significant numbers of corn rootworm beetles and corn flea beetles. These insects will pose a more-than-average threat to corn production in 1984.

The company's technical service group used sweep nets to check PIK acreage in Illinois, Kansas, Minnesota, Iowa, Missouri, Nebraska, North Dakota, Ohio and Wisconsin. Most of the fields yielded corn rootworm adults and corn flea beetles, according to a report on the survey by Mark Atwood, Technical director, Cyanamid Crop Protection Chemicals Department.

Rootworm egg numbers could not be determined, but the number of adults found "indicates significant egg laying might have taken place," Atwood reported.

Atwood says Purdue University is advising farmers to use a soil insecticide next year on set-aside acres if rootworm beetles were noted during August or September, "regardless of what was grown there in 1983." Some of the Cyanamid surveys were conducted in September, after adult rootworm activity peaked, he said.

Atwood said that the surveys were taken too late to find

wireworms and white grub adults still in the fields though they may have been present there during the early summer. Cutworms, found in less than three percent of the surveyed fields, were considered insignificant in the study, he added.

When these same PIK fields were swept with nets, abundant flea beetle populations were found, Atwood continued. In one Minnesota field 60 sweeps of the net captured 50 flea beetles. "Adults of the species will overwinter in these PIK fields, particularly in southern regions of the corn belt, and may pose a more than average threat in 1984," Dr. Atwood said.

Cyanamid designed the survey in part to learn what kinds of corn pests were present in PIK fields. In most of the acreage surveyed, corn flea beetles were found, as were Northern and Western corn rootworm beetles. Southern corn

rootworms were not included in the research, since they generally do not overwinter in the midwest.

Survey results showed rootworm beetles were most prevalent in weedy, fallow fields and in small grain cover crops, which together compromise about one-third of the acreage studied.

Corn flea beetles were found most frequently in weedy fallow fields and in cover crops of sorghum, sudangrass or sudex.

In spite of cool, wet conditions and the late-season timing of sweeps, enough adult insects survived in some fields to be considered a potential threat, Dr. Atwood said.

In one weedy fallow field in Goodhue County, Mn., 60 sweeps of the net caught 350 northern rootworm and 50 corn flea beetles, he noted. Sixty net sweeps caught 77 Northern and Western rootworm beetles in a Dane County, WI cover crop of small grain.

## Tomato meeting on Tuesday

NEWTON — An all day program on tomato production and marketing will be held Tuesday from 10 a.m. to 3:30 p.m. at Thompson's Dairy Bar on the Newton Ransom Boulevard at Newton in Lackawanna County.

The speakers include Peter Ferretti, Penn State Extension vegetable specialist, who will evaluate the tomato varieties grown in four locations in Penn-

sylvania last year. Also on the program are Cyril Smith, professor of plant nutrition at Penn State; Alan MacNab, Extension plant pathologist and Tom Jurchak, Lackawanna County Extension Agent.

MacNab will review the results of using pocket computers to time early blight sprays on tomatoes.



## Energy Edicts

By James W. Garthe

Penn State Ext. ag engineer

One of the most promising alternate fuels for diesel engines is vegetable oil, says James W. Garthe, Penn State Extension agricultural engineer.

Vegetable oils like soybean, sunflower, peanut and corn oil have about 90 percent of the energy of No. 2 diesel fuel and represent renewable fuels. These renewable resources could still be produced during a petroleum shut-off or a fossil fuel shortage.

When substituted for diesel fuel in tractors, vegetable oils do present some problems, however.

First, vegetable oils are about

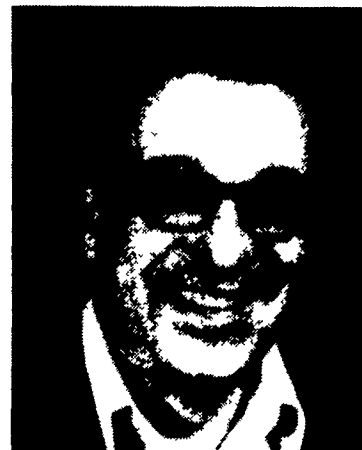
fifteen times thicker than diesel fuel at room temperature. Fuel filter plugging, coking of injector nozzles, gum formation and crankcase oil gelling can also be problems.

If you are going to use vegetable oils as fuel, you must filter them after processing and again before burning them in the engine. Their extreme thickness and high amount of solids lead to rapid fuel filter plugging, though. In some cases, you may have to change the fuel filters every 24 hours.

Coking, or carbon buildup, is another problem stemming from vegetable oil thickness. Poor atomization of the oil as it is injected into the cylinders causes this problem. Poor atomization, or breaking up of the fuel into extremely small particles, results in incomplete burning and carbon buildup. Coking can be prevented only through extensive refining.

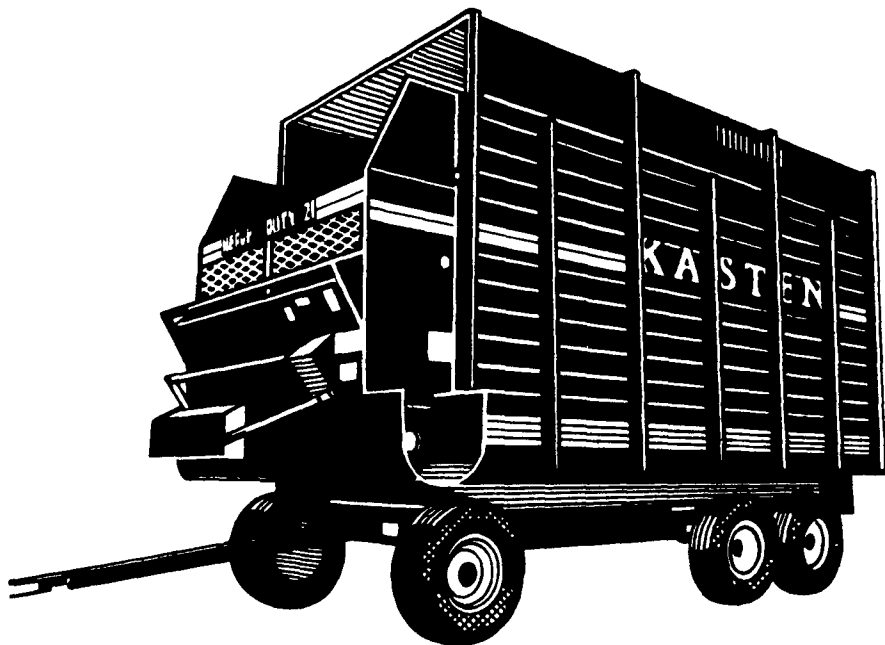
Presently too complicated for the farmer to perform, extensive refining is also needed to prevent gumming that occurs because the oil breaks down when exposed to the extreme temperatures and pressures inside the engine.

Vegetable oil also has the potential to become an acceptable fuel, however. It mixes easily with diesel fuel to give a fuel mixture that doesn't have the problems of straight oil.



Peter Ferretti

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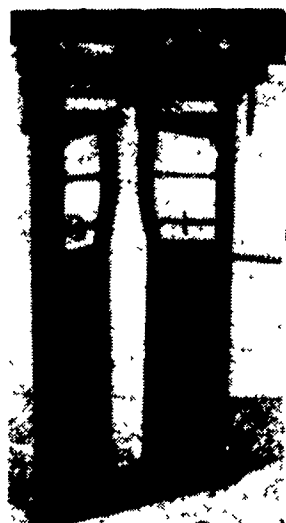
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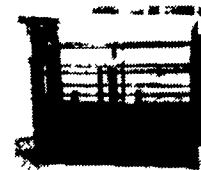


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