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farm market for the others, arkets a great variety of ce, with 77 acres set up for g vegetables and 60 acres d in fruit trees.

as while touring the Raab that the unfortunate wagon nt occurred. As a result of me delay, the tour of the ers Canning Company was

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s of cropland, explains w.

Vegetable tour

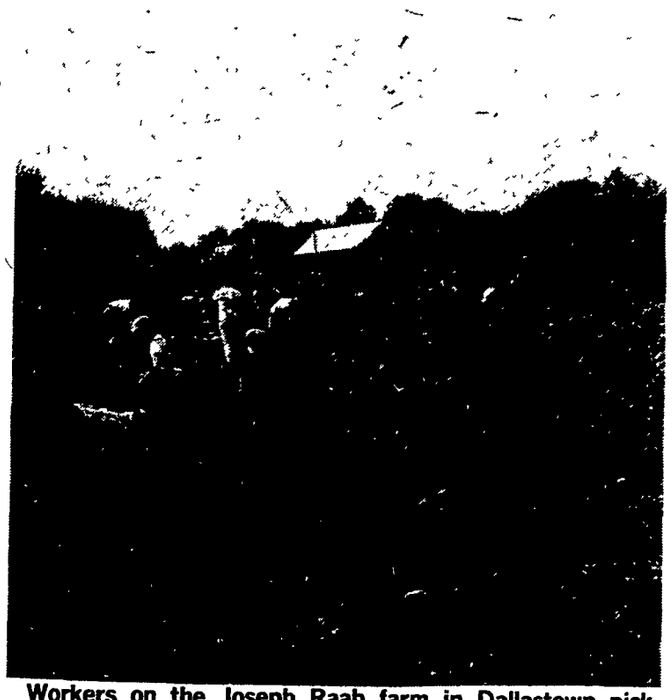
(Continued from Page A20)

cancelled. However William Garman, a representative of the company's farm department, spoke briefly on the plant's operation.

After lunch at the 4-H center, the tour continued with a stop at Hanover Brands Inc., one of the largest vegetable processors on the East Coast. The plant which is located in the town that bears its namesake is used basically for canning vegetables, both in glass and cans. The company owns three other plants in Pennsylvania which are used to process frozen vegetables.

The final stop on Monday's tour was the John Shearer operation which involves about 7,000 acres of land, which ranks him as one of the largest vegetable growers in the state. Shearer owns about 200 acres; the rest of the land he farms is rented. He plants 2,200 acres of wheat, 600 acres of snap beans, 500 acres of soybeans, and 3,000 acres of field corn, with a smaller acreage devoted to sweet corn, popcorn, spinach, and others.

Shearer employs hedging techniques and firm contracts as tools for marketing his abundant crops to Hanover Brands. To get all those acres of vegetables and grain harvested, Shearer relys on a number of large pieces of equipment, including two Steiger tractors, two six row corn harvestors and a snap bean harvestor. To insure his crops never run out of the nutrients they need, he maintains a bulk fertilizer blending operation right on the farm.



Workers on the Joseph Raab farm in Dallastown pick raspberries to be marketed at the farm's roadside stand. The farm grows a variety of vegetables and fruits.

Only sixty vegetable growers continued their tour on Tuesday morning with a stop at Central Market in downtown York — a 93 year old market owned by stockholders where stands are rented to merchants.

The growers learned about the processing of potato chips at their next stop, EL-GE Potato Chip Company. This family owned company can produce over 8,000 pounds of potato chips per hour.

An acre under glass was experienced by the visitors when they toured the double-glass greenhouse at the Miller Plant Farm, York. The Millers' can accomodate about 25,000 standard flats of plants in their houses. They produce a wide variety of vegetable and flowering plants, including melon transplants.

The Miller's also farm 224 acres of land, of which 164 are family-owned. They grow a variety of vegetables including: sweet corn, muskmelons, peppers, tomatoes, cauliflower, broccoli and cabbage. They use the vegetables in a three year rotation pattern along with corn, wheat and hay.

The tour, coordinated through the combined efforts of Penn State's Peter A. Ferretti, John Smith, and Chairman John Fitz, provided some innovative ideas in marketing and raising vegetables, along with an insight into processing for vegetable farmers whose 'gardens' range from several to several hundred acres.

Burning broiler litter is no new idea

LANCASTER — At a recent seminar conducted here for broiler producers throughout Pennsylvania, the idea of recycling litter from the broiler house and converting it into a burnable fuel was raised and reinforced by researcher Norman Smith, head of the agricultural engineering department for the University of Maine.

Although this might seem like a new and somewhat novel concep by most broiler producers, Smith explained "using litter for heating houses has been around for a long time."

Smith cited studies he conducted in 1976 where the litter was collected and burned directly in a wood-chip burner, common in the New England area. However, he conceded, this method proved to be inadequate since the material was too fine. The wood chip burner was temporarily substituted and a gasified-suspension burner took its place in the studies, only to prove this method resulted in a "terrible problem with fly ash."

Then in 1978, the researchers took another step in perfecting the use of broiler litter as an alternate fuel and incorporated into the process a bark dewaterer to make pellets out of the broiler litter. This dewaterer squeezed the litter with a force of 3,000 pounds per square inch, removing part of the 20 pounds of water that exists in each pound of litter. The end result was a material that ranged in moisture from 20 to 40 percent — a much better consistency for burning in the wood chip furnace.

According to Smith, this compacted, dewatered pellet burned relatively clean, with only 15 percent more ash than if wood was burned. Feeding the litter pellets into the burner at the rate of 60 pounds per hour resulted in a temperature of 1,700 to 1,800 degrees Farenheit.

"We were hopeful," recalled the researcher. "Pelleting seemed to be the way to go. It was easy to meter and easy to burn."

The work of the University of Maine researchers had not gone unnoticed during the first three years, and in 1979 the Broiler Federation funded a $25,000 grant to be used toward the development of a commercial version of the pelleter and burner.

The researchers encountered several stumbling blocks, however, as they attempted to scale-up their model. Smith recalled how things got too hot — temperatures reached 2,400 degrees Fahrenheit and the cast iron parts in the apparatus proceeded to soften. To remedy this situation, he said, the fire box was resized to fit the boiler size.

This final adaptation was the last step in the commercially feasible furnace. The total cost of materials for this furnace and boiler figured out to about $2,000. The pelleter cost an additional $3,000, however.

Smith noted that several commercial broiler producers already have adapted this experimental design into their houses, and will be heating with "clean, hot gas" from recycled litter.-SM