

Various ideas viewed at vegetable conference

By KENDACE BORRY
HERSHEY - All aspects of vegetable growing were covered at the 1978 Pa. Vegetable Conference and Trade show held this week at the Hershey Motor Lodge and Convention Center in Dauphin County. Any subject from tomato processing to weed, disease, and insect control was covered in the three day conference. One subject of particular

interest to those attending the convention was the agricultural use of sewage sludge, with the topic being discussed by Raymond Shipp, Extension agronomist of Penn State. Shipp stressed that if anyone uses sewage sludge for crop production, whether it be for corn or vegetables, they should first know the contents of the sewage sludge. Knowing exactly

what is being put on the fields is very important, he added. A complete chemical analysis can be done at Penn State by the sewage sludge testing service, and anyone interested in having this done should contact their county agent. Cost for this service is \$100 per sample. There are many advantages to using sewage sludge, Shipp explained. It contains essential plant

nutrients. Sewage sludge is basically organic matter. When it is added to the soil, it is good for general soil tilth, and increases the water holding capacity of the ground. The soil structure is improved. The essential micro-nutrients are also contained in sewage sludge. These are the necessary elements needed by plants in very small amounts. There are disadvantages to using sewage sludge, too, Shipp continued. It contains heavy metals, and while some heavy metals are essential plant micro-nutrients, others are not. However, all will persist, and build up in the soil, accumulating. Some heavy metals, such as cadmium, are not only non-essential but also highly toxic to animals and humans. These metals are taken up by plants quite readily, and thereby being incorporated into the food chain. Cadmium is unique and important to consider in the fact that very small amounts of it (one to two parts per million) can result in significant amounts of cadmium in plants grown on that soil. Whereas it takes from 10 to 70 parts per million in soil before cadmium becomes toxic to plants, plants growing in a



Raymond Shipp



David S. Ross

soil amended with high cadmium-containing sludge represents a food chain contamination hazard. Yet those plants will show no toxic effects in yield production. Shipp stated that sewage sludge has been used on land for years, yet its contents have never been examined before. He believed that it will be used more in the future, as sewage can no longer be dumped in the ocean and land use becomes more necessary. The sludge

would be better to use, he added, if industry would remove the harmful elements before sending it to a sewage plant. This process is known as pretreatment. "I find it strange," Shipp related. "On all chemicals, there are labels telling exactly what is in the mixture, and people are told to read those labels carefully before using. Sewage sludge, however, has no labels, and the use of it without knowing its contents is dangerous." (Turn to Page 98)

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