

with electrical wires.

We also have established detailed series of inspections for aerial devices. They consist of: 1. Daily operators inspection in which records are turned in weekly; 2. A 90-day visual inspection of performance, controls and warning devices; 3. A one-year inspection as to lifting capacity, stability tests, electrical insulation tests and complete visual inspection of cable, hoses, and all other components; and 4. A three-year tear-down inspection. This consists of dismantling of machine, magna-flux all pins, shafts, sprockets, and shives. Replace all hydraulic lines overhaul controls, x-ray booms and replace cables.

In some ways the OSHA program follows the manufacturers recommendations. The Bureau of Transportation provides and is responsible for maintenance of same. It is our responsibility to supply and maintain the best and safest equipment possible to the using agencies. □

Spray Irrigation Effluent Yields Phosphorus To Soil

Most soils, irrigated with sewage effluent, are capable of removing unwanted phosphorus from the effluent for countless years without becoming over-saturated.

Such irrigation with sewage effluent is considered widely as feasible to meet the proposed goals of Federal legislation which would forbid disposal of critical pollutants into surface waters by 1983, stated Dr. Louis T. Kardos, professor of soil physics at Penn State University.

The phosphorus is either "fixed" or held onto by the soil, or is removed by crops through the root systems in a process termed "the living filter," Dr. Kardos explained. In medium-textured Hublersburg clay loam, for example, phosphorus has not increased below 12 inches of soil after irrigating the land with a total of 472 inches of sewage effluent over a 10 year period.

In coarse-textured Morrison sandy loam, on the other hand, 591 inches of sewage effluent applied over a 7 year period has increased the phosphorus content as far down as 3 feet. This soil is largely covered with forest. Virtually all of the phosphorus taken up by the trees is recycled through leaf litter each fall.

Water samples taken from the soil pores indicate that phosphorus leakage at 4 feet has been less than 1 percent of the total applied phosphorus on the clay loam soil. Leak-

age at the same depth was about 7 percent on sandy loam soil.

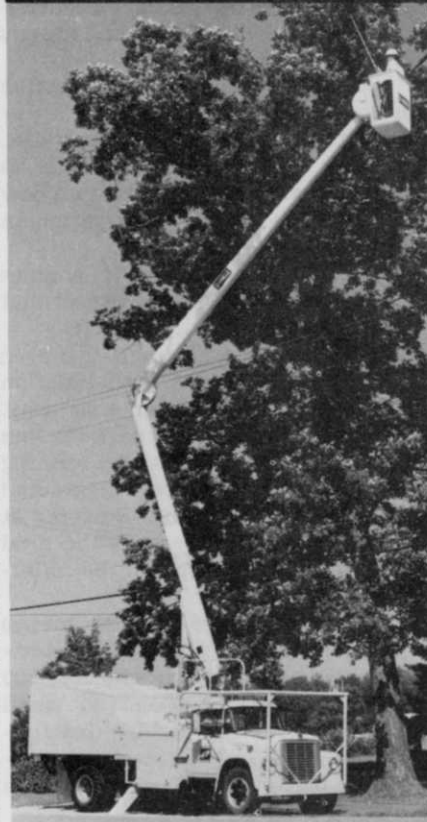
Regardless of the amount of effluent applied, no change was detected in phosphorus concentration in groundwater at either site.

Harvest of crops from the clay loam soil removed from 10 to 140 per cent of the applied phosphorus in the various years, Dr. Kardos stated. Such harvesting of crops contributes substantially to extending the time over which the soil can behave as an effective phosphorus filter.

Approximately 500,000 gallons of effluent are currently being sprayed daily on about 75 acres of farm and forest land at Penn State. Chlorinated secondary effluent is diverted from a sewage treatment plant into a pipeline which runs about 4½ miles to the irrigation site. Any one piece of land is irrigated only once a week. The system has been in operation since 1963.

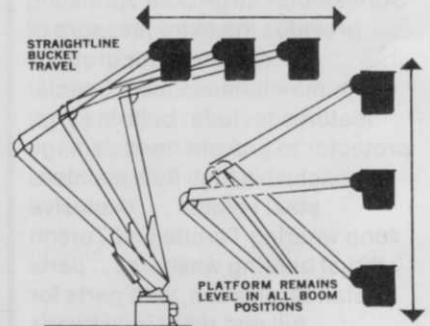
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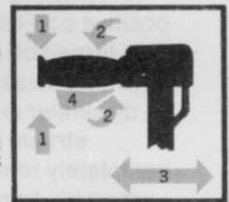
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