Liquid Manure—Pumps, Tanks, And Application Method

(Continued from page 5)

most usual means are on dairy farms and most authorities recommend the use of a large and high capacity pump to water and metering of the manure is not done.)

Pumps of smaller storage, tanks prefer to empty them often and can be used to fill irrigation systems or directly onto the field. In the Southern States, the pumps are generally of the centrifugal type, with the pump controlled by a float system.

Storage tanks are six to eight feet in diameter and 10 to 15 feet in height, depending on the climatic conditions. The bottom of the tank should slope towards the outlet, and any cascade of manure from the outlet should be at least six inches wide. Larger tanks, collared liquid mains, may have a slope of one foot in fifty feet, but will require manual or automatic drainage. (See page 5.)

A pump should be provided at the outlet of the tank to facilitate complete cleaning. The side walls and floor of the tank should be slope of less than six inches thick. They should be reinforced with wire or metal, especially at the corners. (See page 5.)

Application Method

One method of applying liquid manure is by tank wagon. From the tank wagon, the manure is spread through a pipe that is driven through the field. (See page 5.)

A controlled outlet at the rear of the tank wagon allows the manure to flow to a small cone, which in turn is spread through a pipe that is driven through the field. (See page 5.)

Throughout the irrigated area of California the method commonly used is to spread manure through the irrigation system for distribution.

Weather Factors

Hot weather, rains, and high humidity may materially affect the development of rind spot of the stem-end. The severe breakdown in 1934, the first year in which we made accurate observations, followed the period of high temperature in July and August. The most seriously affected areas in Orange County were those that experienced the highest temperatures of 100° F and high humidity of 70% on July 27, and a light rain in the early morning of July 28. It is also possible that coastal fog may be an important factor.

Laboratory Experiment

Susceptible Valencia oranges collected during the peak of the drop were mixed with a fine spray of distilled water and allowed to stand one week at 90° F. After 48 hours, the typical spots appeared in good condition on areas of the rind that were previously exposed to rind spot. Similar trials were enlarged by this treatment.

This laboratory experiment was repeated this summer using treatments of 100° F and a relative humidity of 80%.

Typical spots were developed after spraying with eight parts per million—65.4% of 5:4:0 to check the drop no had no significant effect in preventing spread under these conditions.

Whether this plant growth regulator will have any effect on the incidence of spotting of susceptible fruit under field conditions has not been determined. It does have a pronounced effect in decreasing the tendency to drop. Preliminary trials in the laboratory indicate that treatments with the chemical have fewer dry fruit stems. Fruits that had some slight evidence of spotting developed definite spots after the washing of the packing house, indicating that the chemical had no effect on water and spot wet. (See page 5.)

Pesticides and other substances also seemed to aggravate the condition.

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R. J. Bonamour, in profile of Plant Pathology in the Experiment Station, Davis, and R. J. Bonamour, in profile of Plant Pathology in the Experiment Station, Davis, have laid in a good supply for the Experiment Station, Davis.

Caroten Derivatives

The natural color in butter is mainly carotene which has great nutritional and flavor significance. (See page 5.)

The uses of carotene in milk and cream, apart from breed characteristics, depend upon the amount of carotene in the feed of the cow. The seasonal variations in the carotenoids vary from year to year. Butter is better to range in natural color from a pale yellow to a deep "summer yellow."

Usually the manure is admitted into a standing pipe and then spread through the pipelines or from there, using the irrigation water as a carrying agent. Liquid manure may be pumped directly to the land, but the solids are likely to settle out in the irrigation water. (See page 5.)

A sprayer system should never be used to distribute liquid manure with the sprinkler heads, since the liquid is piped thoroughly imme-

Supplemental Feeds For Range Sheep Compared As To Protein, Digestible Nutrients And Price

Sheepmen are faced with the problem of feeding high priced supplemental feeds. (See page 5.)

Ewes that are bred to lamb in November, however, are in good condition and should be on good pasture. (See page 5.)

Volunteer grain hay with some oats were available last year at a lower price than the other feeds. (See page 5.)

Butter never has been regulated by the Federal government. (See page 5.)

It is essential that the consumer be protected from heat and light or the color will fade or become grey. (See page 5.)

In trade channels and in household use it is necessary to make sure that the consumer is getting pure butter. (See page 5.)

Color standards may be prepared by the Federal government, but they can not be enforced because the producer has no control over the color of the butter. (See page 5.)

By making use of this method it is possible to improve the color characteristics in the use of color and the consumer with a uniform butter which is of the same quality as the cream tested. (See page 5.)

G. A. Richardson is Associate Professor of Dairy Diaries and Associate Dean, Division of Home Economics, University of California. The writer thanks her for her suggestions and comments.

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The buttermaker usually attempts to standardize his product to a shade of yellow which will be free from harmful vegetable or synthetic dyes. (See page 5.)

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