

Harvesting Asparagus

comparative effects on yield of cutting and of snapping studied

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Under California conditions it is doubtful whether a saving of labor by field snapping would offset the decrease in yield in the field, and the loss of usable asparagus by trimming in the cannery.

A nine-year old asparagus planting at Davis was used in 1949 to compare the yields of the cutting and the snapping methods of harvesting. The harvesting treatment plots consisted of three replications of three-row plots each containing .075 acres.

An attempt was made to harvest the spears with a minimum of four and one-half inches of green on both treatments. The normally harvested plots were cut about three inches below the soil surface, while the snapped plots usually left a stub from one half to two inches above the soil surface. The plots were harvested 36 times during the 1949 season. Since the length of spear varied with the treatment, the data collected were based upon the number of spears obtained. It was assumed the snapping would not affect the diameter of the spear, therefore the number of spears would be a measure of yield. The mean number of spears produced in the three replications, where harvest was by cutting, was 10,081. Harvest by snapping produced a mean of 8,932 spears for the three plots.

The data showed a 12.9% increase in yield of cutting over snapping. This difference is significant at the 5% level. The treatments produce the same number of spears at the beginning of the season but as the season advanced there was a progressive decrease in the accumulated number of spears. The wide fluctuation observed at the beginning of the season probably was due to the difficulty in getting the harvesters to snap at the proper time.

There appears to be a difference in plant response to snapping between the West and the East.

Trials

Research workers in Michigan reported that snapping in 1944 did not reduce the yield in 1945 and there was a material reduction in labor by snapping. A four-year average gain of 15% in yield and no branching—feathering—below the break also were reported from the Michigan trials. Some guard rows in an asparagus

test plot at Davis were snapped in 1947 to see if feathering would occur. It did occur and might be a factor affecting yields.

In the asparagus fields of California it is an established practice for cutters to jab spears that are too small in diameter for canning uses. Jabbing is cutting the spears and leaving them lie in the field.

Frequently the spears are cut an inch or two above the ground. When this happens the stubs remain green and in the course of time some of the normally dormant lateral buds begin to grow, eventually producing fern a foot or more in height. This growth is known as feathering.

It has been standard practice to remove this growth periodically by disking as it has been the general opinion among growers that feathering reduces the yield.

In the conventional method of harvesting many spears are destroyed by cutting under ground and unless there is some deleterious effect by snapping an increase in the number of spears proportional to the amount destroyed by cutting might be expected. Such does not appear to be

the case under the conditions of the trials at Davis. Feathering was not pronounced until near the end of the season, yet the decrease in yield started early during the season.

Normally under California conditions, there is very little rainfall during the cutting season, the soil surface is dry and the humidity relatively low. This is true particularly during the canning season.

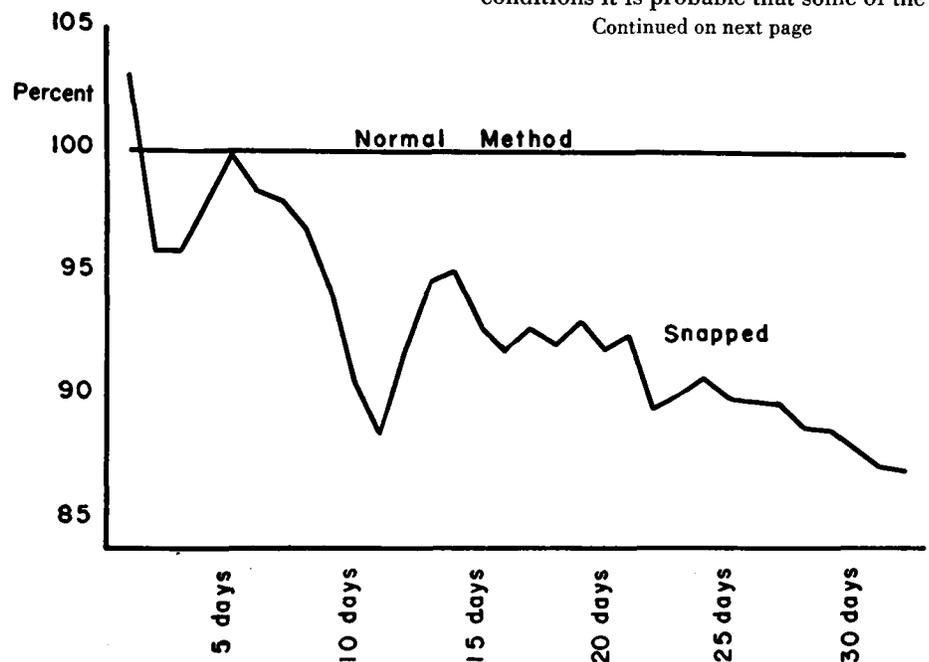
Observations

After the first few days the snapped beds of the test plots were covered with green stubble which persisted throughout the season. Where the break occurred near the soil surface, most of the individual stubs began to show evidence of deterioration after a few days. If the break occurred 1½ to two inches above the surface, the plants persisted much longer with some feathering, especially on the spears with a small diameter.

It appears that the green stubble does have an inhibiting effect on development of new spears. The inhibiting effect measured in this experiment is only partial as many spears on the normally harvested plots were destroyed by the cutting method. Although the actual decrease obtained during the 36 harvesting days was only 12.9%, it probably would have been considerably more if the beds had been cut the normal 55 to 60 days.

In this experiment no attempt was made to evaluate the labor involved in the two methods. There was considerable difficulty in snapping on warm days when the humidity was low. The breaking point under such conditions may be over two inches above the soil surface. Under such conditions it is probable that some of the

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Daily accumulated yield in number of spears of snapped asparagus expressed as per cent of normal method.

edible portion of the spear is left in the field.

In California the spears are trimmed mechanically in the cannery to the desired length rather than hand snapped as in the East. Therefore, snapped spears would not save labor except in butt disposal. Since the snapped spears are of unequal length there is a loss of usable asparagus when trimmed to equal lengths. Thus the cost to the canner on the actual asparagus canned would be increased proportionally to the loss in trimming.

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APHID

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is not applied against the aphids, the predators may well be in a position to check the infestation before too much damage is done.

Caution Required

Although the results obtained with the speed-type sprayer look very promising, further investigations are very much needed: the effect of parathion and tetraethyl pyrophosphate upon predators and parasites has not been determined adequately; effects upon bird and other wild-life have not been ascertained; it is not known whether continued use will result in plant injury or in the increase of another pest; and, until some of these possible problems are more fully understood, commercial use of these materials should proceed with caution.

Exceptionally good control of the aphid was obtained where tetraethyl pyrophosphate was applied as a smoke aerosol. Despite this, it is considered too hazardous to warrant a general recommendation because there is no way of controlling the drift of the smoke.

Because of the extreme toxicity of tetraethyl pyrophosphate and parathion to human beings, these insecticides should be used and handled with caution. The precautions as given by the manufacturer should be followed carefully.

Highly satisfactory control of the walnut aphid can be obtained where nicotine dusts are applied under favorable weather conditions. Treatments should not be applied during periods of unsettled cool weather, for poor control will result, making frequent treatments necessary. This should be avoided because observations indicate that trees covered with an excessive amount of dust are more subject to serious attacks by orchard mites than are those which are covered with only moderate amounts of dust.

No matter what method is used, satisfactory control of aphids will result only

where the proper dosage is used and the insecticide is evenly and thoroughly applied.

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LAMB

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being marketed has become so large that retail trade disfavor has resulted in a producer price penalty recently amounting to approximately 2½ cents per pound live weight on lambs dressing at 48 pounds and above.

When feed supplies are available, both producers and feeders try to utilize it through heavier weight lambs. With increasing feed supplies in prospect for the next several years, this pressure will probably continue and intensify.

The attitudes of retail meat dealers towards heavy lambs vary all the way from outright refusal to handle them at any price to a willingness to handle them even at the same price as lightweight carcasses. The position of the bulk of the trade seems to lie between these extremes—they are willing to handle a limited number of heavy lambs at a wholesale price differential of four to eight cents per pound below the lighter weights.

Habit and custom of both the retailer and his customers apparently bear heavy influence. Some retailers have experimented with cutting lamb steaks from the heavy legs; others have tried cutting the leg in two parts. The latter method has been more successful, particularly in the self-service market, where the customer can easily see the cut in a cellophane package.

Some retailers will refuse any experimentation whatever and are certain that cuts of these types have no prospect of selling.

Lamb consumption patterns, extremely variable in character and under the heavy hand of habit and custom, have for years confronted lamb producers and distributors with perplexing problems. To these are now added the questions of why demand for lamb by the middle income groups has declined, and what to do about marketing heavy lambs. These questions deserve investigation for the prospects are that the supply of lamb will increase towards its prewar relative position and that feed and production conditions will be favorable to heavy lambs.

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BEET

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eggs. About two days elapsed between mating and egg laying and adults lived about two weeks. The egg period varied from five to six days at mean average temperatures of from 74° F to 78° F.

At least two generations occur in the field a year. Under caged conditions at a mean average temperature of 76° F, a complete life history was completed in from 34 to 39 days.

Two larval parasites were found during 1949 but parasitism was extremely low as shown by the fact that only four specimens representing two species—a tachinid and a hymenopterous parasite—were recovered from thousands of larvae collected.

Control

A series of replicated plots was treated by means of rotary hand dusters and compressed air sprayers during July, 1949, at Woodland. The chemicals were applied when the beets were four to five inches high. These experiments indicated that DDT and parathion both as dusts and sprays showed promise and should be included in future experimental work. DDT as a 10% dust at the rate of 90 pounds per acre was effective as was a 50% wettable DDT powder applied as a spray at the rate of two pounds per 88 gallons of spray per acre. A 2% parathion dust at the rate of 107 pounds per acre, and a parathion spray of two pounds of 20% wettable powder to 88 gallons of spray per acre, were also effective. Under the conditions of this experiment the other materials used were not as effective as DDT and parathion. In order to secure adequate control it was found necessary to concentrate the chemicals at the bases of the plants.

Control of the caterpillars attacking broccoli was difficult, although the repeated application of DDT sprays concentrated in the plant rows was fairly successful.

The periodicity of abundance of this insect makes it difficult to predict its future economic status as a sugar beet pest in California. Damage to sugar beets in 1949 was correlated with time of planting. Beets planted in May and June were in a more susceptible stage of growth during July and August than those planted prior to this time. During years when beets can be planted prior to May and June they usually will be established firmly prior to abundance of the crown borer.

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