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EARLY CANTALOUPE.

— BY —

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EARLY CANTALOUPE.

BY P. K. BLINN.

One of the most important questions connected with cantaloupe growing is how to get them early, for here as elsewhere it is the "early bird that catches the worm." The high prices received for the first cantaloupes on the market offer great reward to the grower who is successful in maturing his crop a few days in advance of his neighbors.

It is not uncommon in the vicinity of Rocky Ford for the extra early cantaloupe field to return to the grower from two to three hundred dollars per acre, and it is in hope of such returns that every grower plants his seed; but as the season advances it soon becomes evident that from one cause or another many have fallen behind in the race, and only those who are fortunate enough to escape the various adverse conditions which beset the crop from time to time and check its growth, succeed in getting the early crates.

Some of the many factors that influence the development of a crop of cantaloupes are beyond the control of the farmer, but this bulletin is planned to deal with the elements that can be influenced by him, not with a view to giving specific rules which will insure an early crop, for the varied conditions of different farms and seasons make explicit directions of little value; but to present from observation and experience such facts as may reveal to some extent the underlying principles to be considered in producing a crop of cantaloupes.

Seed.—The Netted Gem cantaloupe is virtually the only variety grown in the cantaloupe growing sections of Colorado, yet there is almost a variety variation in some of the strains of seed from different growers, due to varying lines of selection. It is generally conceded that the most perfectly developed types are not quite so apt to be early as the cantaloupe grown from "slickers" or culls; but the ultimate value of a good melon and its influence on the market make it imperative for the grower to plant nothing but the best seed, of ideal type and quality, with early tendencies. It is evident from numerous comparative observations that the question of seed does not have so much influence in producing

early cantaloupes as does the care and cultivation in handling the crop.

Soil.—Experience has proven that a sandy loam is the soil best suited for cantaloupes, and that its condition of tilth and the available fertility are the prime essentials in bringing cantaloupes to quick maturity.

The secret of getting soil in that ashy, mellow condition so desirable for cantaloupes is largely one of experience, for hardly two farms can be handled the same. In general, there must be moisture in the soil over winter to get the disintegrating effect of frost, and plowing should not be done until the ground is dry enough to pulverize mellow. Barnyard manure has long been the means of supplying fertility to force cantaloupes to early maturity; but owing to the limit of its supply, crop rotation became necessary, and in 1896 the Sub-Experiment Station at Rocky Ford made the first test of cantaloupes on alfalfa sod, which resulted in signal success, demonstrating that alfalfa sod affords ideal soil conditions for cantaloupes both in early production and in securing a big yield. The test was on a plat of one acre, which was planted May 4th in hills six feet each way and received ordinary care; the plat having three hoeings, four cultivations and seven irrigations during the season. The first crate of ripe cantaloupes was marketed July 29th, only one day later than the earliest record ever made at Rocky Ford with cantaloupes on well manured ground. The vines made a remarkably uniform growth and the yield was three hundred and fifty standard crates per acre, nearly double the normal yield on ordinary soil. Since then alfalfa sod has been in general use for cantaloupes in the crop rotations of the Arkansas Valley.

Its relative value over old, worn-out land is well contrasted in Plate 1, which is a photo taken July 7th on the farm of I. D. Hale; the rows on the right were planted on alfalfa sod at the same time and had the same care as the balance of the field.

The same contrast is often seen in land that has been growing beets and that which has not, the beet ground being unfavorable for early cantaloupes; indeed, experience of four years at Rocky Ford since the introduction of the beet crop testifies that it is useless to expect early cantaloupes on beet ground, although if the land is not too much exhausted, very satisfactory late cantaloupes have been grown after beets.

During the season of 1904 several commercial fertilizers have been tried extensively to supply the needed elements for growing early cantaloupes on beet ground, but the results are so conflicting that a conclusion is not warranted, except that the use of the fertilizer in and under the hill at planting time is extremely hazardous.



PLATE 1.



PLATE 2.

COLO. AG. EXP. STA.

PLATE 1.—Cantaloupes at right grown after alfalfa. At left on worn out soil.

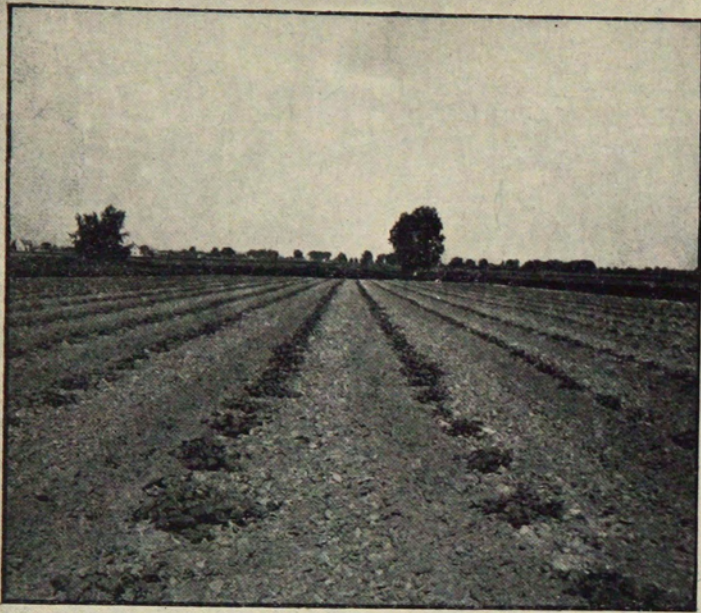


PLATE 3.



PLATE 4. *COLO. AG. EXP. STA.*

PLATE III.—Showing Development of Cantaloupes. Photo taken July 2, 1904.

PLATE IV.—Same Field Two Weeks Later.

Hardly a grower who used the special melon fertilizers according to directions, but lost from a few rows to many acres of early cantaloupes. The little melon plants died when the roots came in contact with the caustic elements of the fertilizer. A few growers had encouraging results; and when the manner of applying and the quantity to be used in relation to irrigated conditions is determined by careful experiments, the use of commercial fertilizers may result in valuable profits to the melon growers, but until then, barnyard manure and rotation with alfalfa and other leguminous crops offer the safest and most reliable source of fertility.

Care and Cultivation.—If there is a secret in getting early cantaloupes it is in growing the crop from start to finish with a uniform unchecked growth; the cantaloupe does not seem to have the power to rally from a check in growth or an injury from an insect and still make its normal development. The back-set not only cuts off the production of early cantaloupes but seriously affects the size and quality of the melon. There are numerous instances where unfavorable conditions of growth have produced a large quantity of pony melons, while under more favorably growing conditions the same seed and soil have yielded standard sized cantaloupes. One of the first signs of promise for early cantaloupes is a quick germination and rapid development of large cotyledons. Seed that germinates slowly with small yellow appearing seed leaves has never made early cantaloupes.

Planting.—The first requisite aside from moisture for a good start is warm weather, as cantaloupe seed cannot germinate when the ground is cold and freezing; and if perchance the days are warm enough to germinate the seed that is planted in March or April, the cold nights that are sure to follow will offset the advantage of early planting.

Fifteen years of weather records at the Sub-Station in Rocky Ford reveal the fact that in nine out of the fifteen years there has been frost the last few days of April or the first in May that seriously injured or completely killed any melons that were germinated at that time, and that light frosts and cold nights are common up to the middle of May. Old cantaloupe growers around Rocky Ford consider that May first is plenty early to plant cantaloupe seed.

The seedling period is the critical time in the development of a crop of cantaloupes. It is in that stage that it usually receives a check in growth from cold weather, high winds or lack of moisture. It is also at this time that the striped cucumber beetle makes its destructive attacks. A knowledge of the growth and root development of the seedling will in a measure help to explain the reason for the steps taken and the precaution necessary in handling the crop during this important period.

Plate 2 represents two cantaloupe seedlings, the one on the right revealing the plan of the first root system that develops when the seed germinates; it penetrates almost directly down from the seed while the stem is pushing its way to the surface. These roots seem to form a temporary support for the plant during the first two or three weeks, for up to that time the stem from the seed point up to the surface of the ground is smooth and white, with no evidence of the lateral roots which are shown on the stem of the seedling to the left. The second root system develops from the stem about the time the fifth leaf appears, or four or five weeks after germination; these roots seem to form the main feeders which develop the plant, for the growth of a hill of melons is practically insignificant until it feels the impulse of this larger and better root system. The question of early cantaloupes almost hinges on the success of the farmer in supplying conditions that will favor early development of the lateral root system.

It seems evident that the depth of planting and the manner of managing the soil in the hill has an important relation to the early development of these lateral roots. Experience teaches that seed planted much over two inches in depth are slow and difficult to germinate, being weakened by the long stem that is necessary to reach the surface, and on the other hand if planting is too shallow, the seed are apt to dry out, or if rain follows a crust will form which must be removed, and that often exposes the seed with fatal results, or leaves the plant with too shallow a stem support. It is then whipped and wrung by the high, dry winds, or the long stem is exposed to the attacks of the cucumber beetle.

Seed will germinate readily when weather conditions are favorable, if planted at about the depth indicated by the white portion of the stem of the seedling at the left in Plate 2. When the seed leaves are nearly to the surface, if a garden rake is drawn through the hills with a lifting motion it will remove any crust or dry lumps which obstruct the little melon plants.

Plenty of seed should be used to provide against loss in handling the hills or from attacks by insects; it also affords a chance to select the thriftiest specimens when the thinning is made to two or three plants. Owing to the injuries from the striped cucumber beetle, this thinning should not be done until the plant gets several leaves and the lateral roots are developed; the extra plants in the hill should be destroyed by pinching or cutting the stem, as pulling is apt to disturb the remaining plants.

The best known precautions against the cucumber beetle consists in the application of lime, ashes or road dust, and the continual working of the field with hoe or cultivator.

Hoeing.—Hoeing the hills is of great importance, but it should be done with skill both as to the time and the way it is

done, for careless hoeing is a common error; if the seed has been properly planted in mellow soil and the irrigation properly applied, there is no reason for deep hoeing in and close to the hill, as it only disturbs the plants and dries out the soil; weeds can be destroyed by shallow hoeing.

The dry, cloddy soil on the surface should be removed from the hill by hand and replaced with fine, moist, mellow soil, hilling up the plants as far as possible, which will protect the plants from wind and insects in a large measure; but the most important feature of this process is the holding of the moisture well upon the neck or stem and affording the best conditions for a long base and an early growth of the main root system. If, on the other hand, the soil in the hill is loosened up with the hoe and only hilled up by drawing the loosened soil to the plant with the hoe, the hill will usually dry out, and only a short portion of the stem be in moist soil, consequently it has but a short base for the production of its root system.

Cultivation.—A thorough preparation of the soil before it is planted to cantaloupes will very much lessen the necessity for so much cultivating afterwards, but a great deal depends on frequent and thorough cultivation during the early stages in the growth of cantaloupes; at first it should be deep and thorough, but not close enough to disturb the plants; the cultivations should be more shallow and further from the hills as the plants develop. The grower who cultivates deep and close to the hill because the vines do not prevent him, is cutting off one source of early cantaloupes. He should study the growth of the roots, for they form the counterpart of the vines on the surface, only they ramify the soil more thoroughly and to a greater distance than the length of the vines. Plates 3 and 4 will give a conception of the root system which must exist to produce such an increase of growth in so short a time; the first was taken July 2, 1904, and represents the growth of about eight weeks, while the second was taken at the same point two weeks later.

Irrigation.—Moisture for the cantaloupe hill is generally supplied by the irrigation furrow. It should always reach the seed or plant by soaking through the soil. Irrigation should never be allowed to over-soak or flood the ground, as the soil will then become hard and not permit a good growth.

The relation of irrigation to an early set of cantaloupes is a somewhat mooted question. There are growers who argue the use of frequent irrigations during the setting period to secure a good set, and there are others who prefer to keep the vines rather dry and even letting them show the need of water before they will irrigate during the setting stage.

There have been results that seemed to support both theories,

yet close observation would not warrant following either plan to an extreme, but rather a medium course of supplying enough moisture for an even, healthy growth, which seems to be the essential condition all the way through. An excess of irrigation during the hot weather in July will doubtless tend to grow vines at the expense of early fruit; but the most disastrous result of too much water—having the ground so soaked that the surface is nearly all wet, and affording the moist, dewey condition which is favorable to its development—is in the development of rust.

The rust problem is a serious one in cantaloupe culture in Colorado. Controlling it by proper application of irrigation is only a palliative measure, yet a marked contrast is often seen in two portions of a field; one over-irrigated, and the other comparatively dry, aside from the moisture necessary to the growth of the vines. Rainy weather and dewey nights afford the proper conditions for the growth of the rust spore, and while the farmer cannot change climatic conditions, yet by careful attention in the application of water, having the rows well ditched, and with adequate waste laterals to prevent over-soaking and flooding, the surface of the ground will dry rapidly after a rain or an irrigation. Thus the dews at night will be less, and in a measure alleviate the effects of rust.

Marketing.—The high prices which prevail at the beginning of the season, and the urgency of the commission men, have resulted in the shipment of many green and unmarketable melons. It is evident that a continuation of such practice will produce dissatisfied customers and consequently loss of trade. The popularity of the Rocky Ford cantaloupe and its value as a money making crop, should induce the farmers of the Arkansas Valley to maintain the standard of excellence by every means in their power, and to discountenance the shipping of green and otherwise unmarketable melons as an act of treachery to the cantaloupe industry.