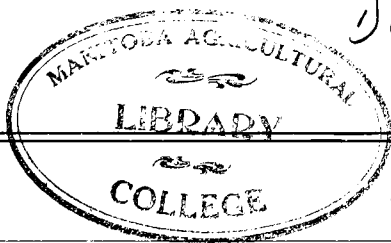


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HORTICULTURE AT HIGH ALTITUDES

By
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INTRODUCTION

Much of the arable land of Colorado consists of mountain valleys and other areas which are located at what is commonly referred to as the "high altitudes". The growing season in such localities is short, and except for certain crops, is frequently unfavorable. Stock raising and potato growing under such conditions are often profitable, as the principles essential to success in these phases of agriculture are fairly well recognized. The same is not true, however, of some other phases, particularly horticulture. Gardening is done, it is true, in a more or less half-hearted manner, and occasionally even small home orchards are attempted, but information as to varieties and methods of culture, which is needed to make such ventures successful, has not been available.

With this in mind, it was decided by the Experiment Station authorities, in the spring of 1916, to begin some experiments in an attempt to secure information along this line. Accordingly, work was started both in agronomy and in horticulture. The writer was placed in charge of the horticulture work, and this bulletin is a report of the progress made to date.

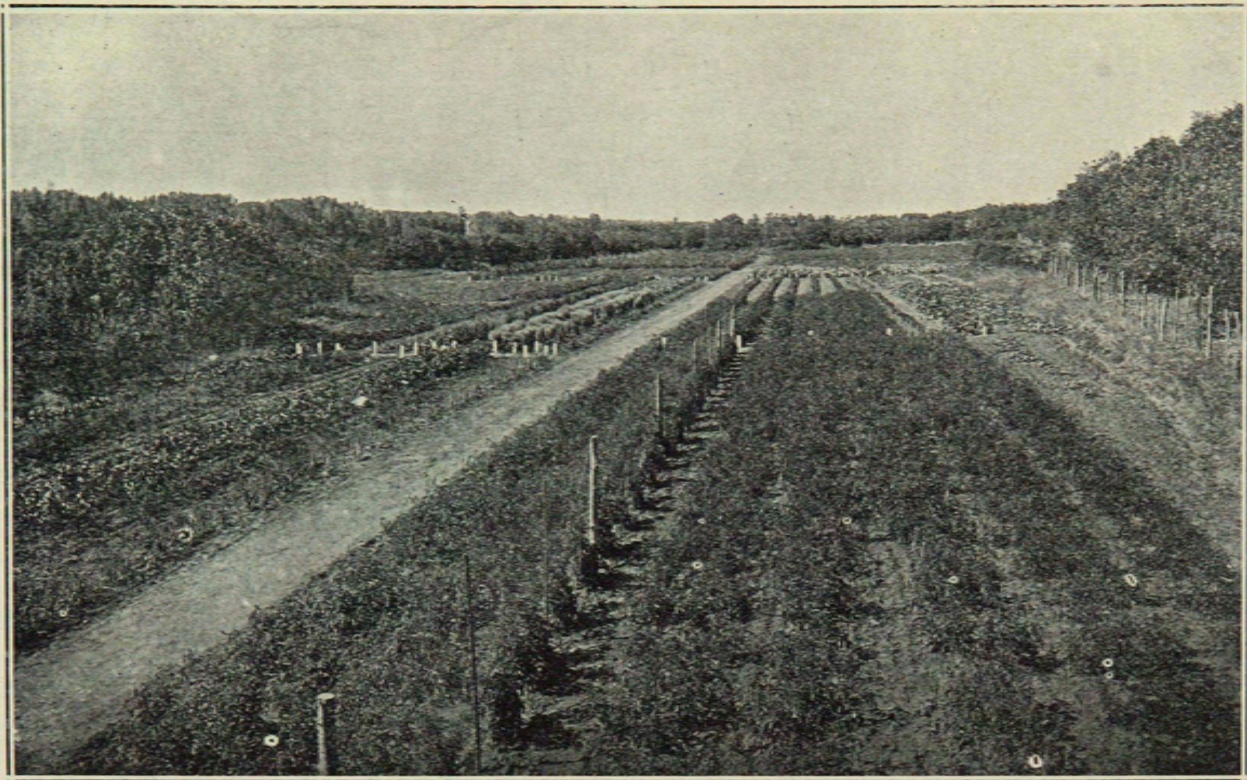
CONDITIONS UNDER WHICH EXPERIMENTS HAVE BEEN CONDUCTED

The Fort Lewis School of Agriculture, a branch of the State Agricultural College, was chosen as a convenient place for carrying on the experiments, because of its situation near the mountains and at an *altitude of slightly more than 7600 feet*. *Frosts* are expected there *as late as June 10th* and as early in the fall as *September 1st*. Very light frosts may occur at any time, and the nights are almost invariably cold. The rainfall during the growing season is sometimes considerable. In the months of July and August, 1916, about 15 inches of rain fell. This condition, of course, makes less irrigation necessary, but tends to retard the maturity of certain crops. Heavy snowfall during the winter occurs quite commonly.

The land set aside for the horticultural work is located on a bench on an eastern hill-side, thus providing fairly good protection and air drainage. The soil is sandy and loamy in nature, and, while in a poor state of tilth in the beginning, is well adapted to the growing of vegetables and fruits. Water is available for irrigation at all times.

DIFFICULTIES ENCOUNTERED

Many difficulties have been encountered which have affected the results of the work considerably. The first year, due to a shortage of labor on the school farm, it became necessary to use inexperienced students in setting out a large number of plants,



View of Experimental Garden.

with the result that many plants died due to improper setting. For the same reason, the vegetable garden was not fall-plowed for the first two or three years. Spring plowing left the soil in poor physical condition, so that it was very difficult to secure good stands in the case of some vegetables.

Difficulty was also experienced in getting strawberry plants true to name, in getting true-to-name and disease-free seed potatoes, etc.

PLAN OF THE EXPERIMENTS

Work was planned and has been carried out along four different lines, as follows:

(1) *An orchard* of about 4½ acres was planted to apples, crab apples, plums and cherries with the idea of determining whether or not the hardier varieties may be expected to succeed under the conditions which prevail at Fort Lewis.

(2) *A small fruit plantation* about one acre in extent and containing a considerable number of varieties was planted in order to find which varieties are best adapted to high altitude conditions.

(3) *The vegetable garden*, which has varied in size from one to two acres, has been utilized in determining what kinds of vegetables may be grown under the conditions, and, of these kinds, what varieties seem best adapted to the higher altitudes. Incidentally the garden furnished a supply of vegetables for the school dining hall.

(4) *A number of varieties of potatoes* have been grown with a view to determining their behavior under the prevailing conditions. In this connection the hill selection method of saving seed has been followed.

THE ORCHARD

The orchard, consisting of about four and one-half acres, was planted in the spring of 1916. The planting comprised, originally, 13 varieties of apples, 5 varieties of crab apples, 10 varieties of plums and 5 varieties of sour cherries. Ten trees of each variety were planted in practically all cases. In replacing dead plum trees the second spring, trees of seven additional varieties of plums were used, three trees of each variety being set in the majority of cases.

It is too early yet to draw conclusions from the orchard work as the apple trees have not come into bearing, and a crop has not been obtained from the cherry and plum trees. A very few cherries and plums have matured but not enough to form any basis for conclusions. A few points in connection with the orchard work, however, may be of interest.

It is already evident that the greatest drawback in growing tree fruits, at the higher altitudes will be the prevalence of late spring frosts. These are very apt to occur when the trees are in bloom and destroy the crop for that season. Since fruit of any kind is usually at a premium in the mountainous localities, it may be advisable to plant a few trees of late blooming varieties even though two or three crops out of five are taken by late frosts.

Rabbits have been the source of considerable trouble. When deep snow covers the ground they are able to feed on the bark of the scaffold limbs of the trees, which are difficult to protect against attacks of this kind. A closely woven wire fence, 6 feet high to keep the rabbits out even in the case of deep snows, seemed to offer the best means of protecting the trees.

There are no indications that the trees themselves are not as hardy at Fort Lewis as elsewhere in Colorado. The bad effects of drying winds which frequently occur on the plains are not felt to the same extent at the higher altitudes, and winter temperatures are no lower. In seasons when considerable rain falls during July and August growth may be encouraged to continue too late in the season and make winter killing possible. The most trouble from this cause, however, is apt to occur when the trees are small and may not amount to anything after they reach bearing age.

As stated above a few fruits of the cherry and plum have matured, and the writer believes this is an indication that certain varieties of these fruits may be grown successfully at altitudes which have been considered too high for tree fruits. Further than this, nothing can be said at this time.

THE SMALL FRUIT PLANTATION

Strawberries.—In the spring of 1916 about one-third of an acre was set to ten varieties of Strawberries with the idea of testing them as to their adaptability. Unfortunately, the plants, when they bore fruit the next season, proved to be all of one variety and that not a particularly good one. Accordingly in 1918 new plants were ordered from a more reliable source, but they were in such poor condition when received that very few of them lived, and the work was again delayed. These are good examples of the difficulties which an experimenter is likely to meet with. Up to the present time no definite information as to varieties of Strawberries has been obtained. It may be said, however, that there seems to be no reason why strawberries should not succeed at the higher altitudes. They are by nature cool-loving plants and it is often possible for them to escape spring frosts which damage other

fruits. If they are well mulched with straw in the fall, the mulch will aid not only in preventing the plants from bearing but will also retard the blooming season in the spring, thus helping to avoid damage by late frosts.

From the small amount of data at hand no definite recommendations can be made. The writer, however, would suggest the Senator Dunlap as a variety for planting until further information is available.

The everbearing strawberries seem to do well at high altitudes, and if it is desired to grow these, the Progressive and Superb are perhaps the best varieties. Spring planting is recommended, but fall planting (done the latter part of August) may succeed.

Raspberries.—Fifty plants each of the following varieties of raspberries were planted in 1916: Cuthbert, Loudon, Herbert, Marlboro, King, Miller's Red, Turner and St. Regis. A very small crop matured in 1917, but the 1918 and 1919 crops were killed by late frosts. A better knowledge of local conditions, however, would have made it possible to have avoided the injury in 1918.

Due to the fact that no crop of any consequence has so far been produced, definite recommendations can not be made at this time. Of the varieties planted, Cuthbert, Marlboro, and Loudon are well known and successfully grown in many parts of the State. St. Regis is one of the so-called "ever bearing" raspberries and appears to have some promise. It has a habit of bearing a crop in the summer and another in the fall. Herbert is a strong growing variety and produces large sized berries of good quality. It appears worthy of trial, especially for home use.

With raspberries, late spring frosts are also a considerable drawback. Damage from this cause, however, may be minimized by proper handling of the plants at time of uncovering. It is often difficult to know just the proper time to uncover the plants in the spring; therefore the following suggestions along this line taken from Bulletin 206, Colorado Agricultural Experiment Station, (Spur Blight of the Red Raspberry Caused by *Sphaerella rubina*, by Dr. W. G. Sackett) may be of interest here:

"Just when to take the berries up in the spring is always a problem, not because we do not know what practice is best to follow but because we do not know what weather conditions to expect. On the one hand, if the spring is going to be late, cold and dry, little harm will result if the canes are left buried until after the first of May; on the other hand, if it is warm and wet, nothing could be more disastrous than to allow them to remain covered until this late date. The danger from uncovering and taking them up too early results from subsequent late freezes during the first part of May. The fruit spurs are usually well advanced by this

time, and the new canes are six to eight inches in height. If the bushes are left covered until late and the weather is warm, with considerable moisture, the canes throw out long, spindling white shoots which wilt and shrivel as soon as they come into contact with the air and sunshine, particularly if there is a little wind blowing; this, of course, means that the canes must grow a second set of fruit spurs, which, at their best are inferior to the first. While there is some difference of opinion concerning the wisdom of early or late uncovering, the most successful growers are agreed that the former procedure is the safer practice.

"The method adopted consists in plowing away the soil from the sides of the row early in April, and in gradually removing the soil from the top so as to admit air and sunshine. In this way, the young growth becomes accustomed to the new conditions gradually, and is hardened off before it is completely exposed; at the same time, the canes have an opportunity to dry off, and if severe cold weather does follow, they will be in a more resistant condition than if saturated with water. The canes may be left in this semi-covered condition for eight to ten days, or even longer, if cold weather prevails, without doing them any injury. With this preliminary hardening, they should be ready to take up by the middle of April, and should be able to withstand rather wide ranges of temperature."

We would recommend that raspberries be planted in the spring. The land should be well fertilized and in good condition before planting, as the crop occupies the space for several years. The plants should be set about four feet apart in the row, with six feet between rows. Cut out all canes which bear fruit, as soon as the latter is harvested. Cover the plants about the first of November, uncovering them, as suggested above, in the spring.

Gooseberries and Currants.—These fruits deserve an important place in high altitude horticulture because of their hardiness and adaptability to conditions. They are rarely injured by the cold of winter, and escape late spring frosts which kill other fruits. They usually bring good prices when sold.

We have been rather unfortunate with these fruits for the reason that we were unable, on account of lack of funds, shortage of space, labor, etc., to devote but a small area to them. Only ten plants of several varieties were planted and these were so badly started when received that a majority of them died after planting.

The following varieties were planted: **Currants:** North Star, Cheney, Red Cross, Fay, Red Dutch, Pomona; **Gooseberries:** Industry, Keepsake, Red Jacket, Houghton, Joselyn, Downing and Smith's Improved. Most of these varieties are well known and from the limited observations made, seem to do well.

If one wishes to plant only a variety or two of each we would suggest the following: Currants: Fay or Red Cross; Gooseberries: Downing, Joselyn, Industry.

Planting should be done as early in the spring as possible, otherwise the buds are apt to be badly started making the plants more susceptible to injury from transplanting. This is especially true if plants are shipped in from lower altitudes where the season is somewhat earlier. Plants should be set about the same distance apart as recommended for raspberries, that is, four by six feet.

THE VEGETABLE GARDEN

More conclusive results have been obtained with vegetables than in any other phase of the work. Successful crops have been planted and grown for four years and it has been demonstrated that most of the common vegetables will succeed under conditions which obtain at Fort Lewis. In the following paragraphs are taken up the various points which seem to be of most importance in this connection.

Location of Garden.—The high altitude vegetable garden should be located in the most protected place possible. A southern or eastern slope is preferable, and if there are buildings, trees or other protection on the north and west sides, the location will be all the more desirable. A sandy loam soil is best, but other types may be made to produce good vegetables.

Preparation of Soil.—The garden should, by all means, be plowed in the fall. This insures that the ground will be in the best physical condition in the spring and makes earlier planting possible. The land should be left rough over winter and then harrowed down when ready to plant. A good application of stable manure should be put on before plowing in the fall.

Seed.—The gardener who grows vegetables at high altitudes should be careful as to the seed he plants. Only certain varieties of some vegetables (tomatoes for example) will succeed, and care should be taken to secure only those varieties which are sure to make a crop. Seed should be bought locally, or ordered from a reliable seedsman, early in the year so as to be sure of getting the desired varieties and having them on hand when planting time arrives.

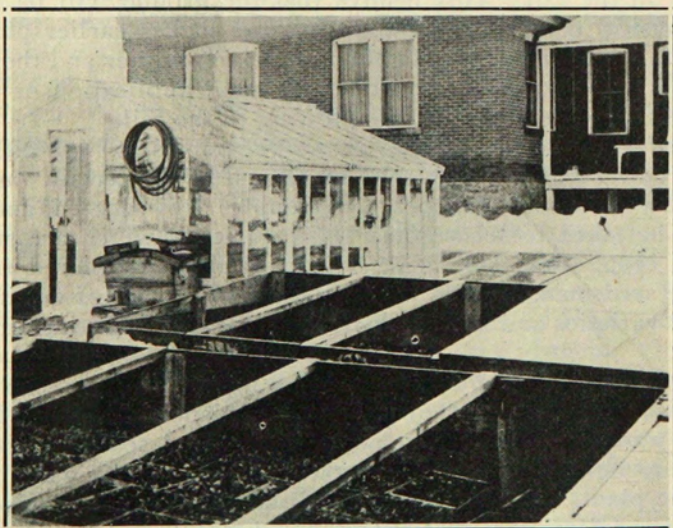
Irrigating the Garden.—Vegetables can not be expected to reach perfection unless they have an abundance of water. In applying water, it is well to remember that good soakings are preferable to light waterings. The garden should be irrigated whenever the plants need water. A small stream, running for several hours, is preferable to a large one which is allowed to run only a short time. When the indications are that it may be necessary to

irrigate in order to get seeds to come up, furrows for this should be made at planting time so as to be sure of getting them in the right place.

Cultivation.—Cultivation in the garden should be frequent and shallow. Root crops may be cultivated rather deeply in the early stages, but in general, cultivation should not be more than two or three inches deep. Irrigation furrows, as soon as they have dried out sufficiently, should be cultivated up to check evaporation from the soil. Cultivation should not be done when the ground is too wet as it leaves the soil in bad physical condition.

Hotbeds.—The gardener is often unable to get plants of the kind he desires locally, and must take undesirable plants or grow them himself. The latter procedure is best as one is then sure of having a supply of plants of the desired varieties. These may be grown in boxes of soil placed in a south window of the kitchen or living room, but a small hotbed of two or three sash is a much more desirable place to grow such plants. In such a structure the plants have more nearly the conditions they need and more of them can be grown.

Full information as to the making of hotbeds and cold frames and their uses may be had by addressing the Colorado Agricultural Experiment Station, Fort Collins.



Small greenhouse and hotbeds at Fort Lewis. Note plants growing in flats in hotbed.

Asparagus and Rhubarb.—These perennial vegetables should be found in every garden. They are hardy, free from insects and diseases and are desirable additions to the vegetable diet. Once planted, they will produce crops for years if given a fair amount of cultivation and fertilization. Neither of these vegetables was included in the experimental plantings because there were plantings already established when the work was begun in 1916. These served to show that asparagus and rhubarb grow well at high altitudes. Any of the cultivated varieties may be grown.

Beans.—This vegetable is commonly considered a tender crop, requiring warm weather for best development, and it might therefore not be expected to succeed where cool days and cold nights prevail. As a matter of fact, however, snap beans do well. They will sometimes undergo light freezes without being damaged, a fact which often makes it desirable to take a chance and plant before all danger of frost is past. If such planting succeeds, an early crop results, while if the beans are killed by a hard frost only the seed and labor of planting are lost.

A number of varieties have been grown but Stringless Greenpod is the most desirable. Bountiful, another green podded kind, also gave good results. Of the wax-podded varieties tried, German Black wax is perhaps the best. These varieties will all produce edible pods in 60 to 75 days from planting. Though not thoroughly tried out, it seems that mature beans of the Pinto type may also be grown, if planted as early as possible. Limas have not proved a success.

Cabbage, Cauliflower and Brussels Sprouts.—All members of the cabbage family of plants grow to perfection at the higher altitudes where the cool seasons are especially favorable for their development. Any varieties will grow well but the following are some of the more desirable kinds:

Early Jersey Wakefield produces small conical-shaped heads which are the earliest to mature. Copenhagen Market is a very desirable early maturing variety. The heads are large and round. Danish Ballhead produces hard round heads of good size and should be grown for winter storage. American Drumhead Savoy is a variety of extra good quality. It has crumpled leaves.

Earliest Snowstorm, Early Snowball, Dwarf Erfurt and Dry Weather are good varieties of Cauliflower. This vegetable may be grown to perfection when carefully handled. The plants should not become checked at any stage in their growth as they will not develop properly afterward.



Trimmed heads of cabbage are Copenhagen Market; Cauliflower is Snowball. These vegetables grow to perfection at high altitudes. Note Savoy Cabbage in center.

Brussels Sprouts is a member of this group which is not cultivated as much as it should be. They demand the same treatment as cabbage but require a longer time for development. One drawback in growing Brussels Sprouts is the fact that the plants are attacked by plant lice which, if numerous, make the sprouts unfit for use. They may be controlled by spraying with kerosene emulsion when the insects first attack the plants.

All the vegetables in this group may be started indoors about March 1st to 15th, though six weeks later is soon enough for late cabbage which is to be stored for winter use. Transplanting outdoors should be done in May. Cabbage and related plants are quite hardy and will endure considerable frost.

Celery.—Celery of the highest quality may be grown under conditions such as prevail at Fort Lewis. Golden Self Blanching and Giant Pascal have both been grown with success. Seeds should be planted about April first and the plants set in the garden the middle or latter part of May. Golden Self Blanching is ready for use in September or earlier, and Giant Pascal is a good sort for winter storage.

Lettuce.—Out on the plains, it is difficult to grow good lettuce, except as an early spring crop and head lettuce sometimes



A good way to blanch the easy blanching varieties of celery. The green varieties such as Giant Pascal should be blanching with soil.

fails to succeed even then. At the higher altitudes, however, both leaf and head lettuce do exceptionally well whether grown as a spring or summer crop. Those who prefer head lettuce need grow no other. The plants are hardy and seed may be sown outdoors the first of May. Lettuce is a good hotbed crop and where hotbed space is available some should be grown for early use. The seed may be planted in the hotbed the latter part of March.

Grand Rapids is the best variety of leaf lettuce. Among head lettuces, Wayahead is one of the earliest and best. New York, or Wonderful, forms very large solid heads of good quality. Deacon and Deer's All-Heart have also proven to be good.

In growing head lettuce, it should be remembered that the plants must have room to develop properly. This means that when they have formed the second pair of leaves, they should be thinned to stand about six or eight inches apart in the row.

Melons, Squashes, Pumpkins and Cucumbers.—These vegetables are grouped together because their requirements and methods of culture are similar. They are quite susceptible to frost and outdoor planting can not be done until danger of frost is past. Cucumbers and Summer Squashes will mature when seed is sown out-



One picking of Cucumbers. On the right are Melon vines; Celery on the left.

doors about the first week in June. But the others should be started in a hotbed the latter part of April and transplanted to the field about the 15th of June. This group of plants will not endure having their roots disturbed so they must be started in paper or clay pots, dirt bands, or on squares of inverted sod. Four or five seeds should be planted in each pot and when these have come up, all but the two best are thinned out. When ready to set in the field the whole mass of soil around the roots is planted so as to leave the root system intact. If clay pots are used the mass of soil containing the plants may simply be knocked out of the pot and set in its proper place. If paper pots or dirt bands are used these should be torn away when the plants are set out. This method of handling these crops lengthens the growing season for them considerably and gives them a better chance to mature.

By starting the plants as described above we had very good success with Emerald Gem and Montreal Market Muskmelons, Hubbard Squash, and Small Sugar or pie pumpkins. Early White Bush and Golden Crookneck Squashes (both summer varieties) also did well.

Several varieties of cucumbers have been grown, of which the following are desirable: Davis Perfect, Everbearing, Cool and Crisp and White Spine.



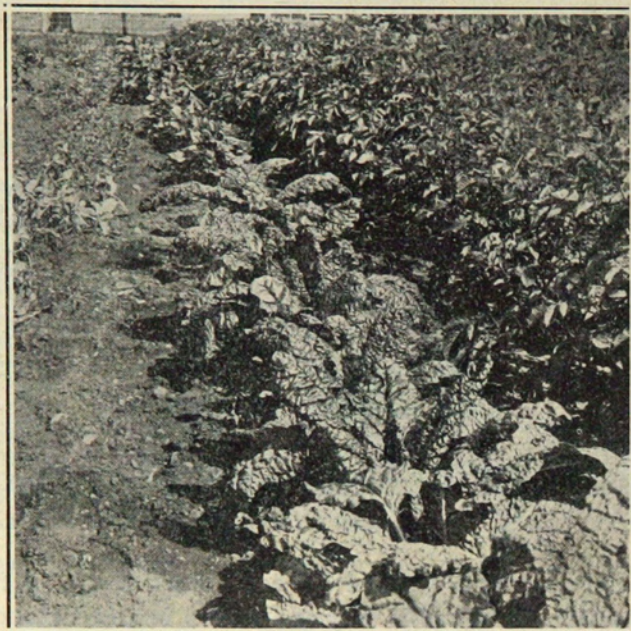
White Bush, or Scalloped Squash. An early prolific summer variety.

Cucumbers may be planted out doors after danger of frost but better results will be had if they are started in a hotbed.

Onions.—It has been found difficult to grow good onions from seed at Fort Lewis. One reason for this is that circumstances have made late planting unavoidable. This vegetable is hardy and should be planted as early as the ground can be put in condition. By using early varieties, such as Extra Early Red or White Silverskin, and planting early, it should be possible to grow good mature onions from seed. Mature onions may be grown from sets planted early in the spring, though a considerable per cent of the sets will go to seed instead of producing large bulbs.

Peas.—Good success has been had with peas, as they are naturally a cool season crop. The vines continue to bear for a longer time than is the case in warmer localities where they often die after a short period of bearing.

A number of varieties of peas have been grown and most of them have done well. Alaska is one of the earliest varieties and is desirable because of that and also because it may be planted quite early. Its quality, however, is not so good as later varieties. Market Surprise and Gradus are somewhat later than Alaska but better in quality and are desirable varieties to grow. Thomas Laxton, Telephone and Sutton's New Discovery are other varieties which have given good results.



Swiss chard or leaf beet. A desirable plant for greens.

Root Crops.—Under this heading may be considered carrots, parsnips, beets, turnips and radishes. All of these are hardy and seeds may be sown early in the spring. It is better, in fact, to plant them early in order that better stands may be secured. If planting is delayed so that irrigation is necessary to get the seeds to germinate, poor stands frequently result. All of these vegetables grow to good advantage at the higher altitudes, and while any varieties will, as a rule, do well, some are better than others.

Chantenay, Coreless and Danver's Half Long Orange have been found to be good varieties of carrots, while among the parsnips, Guernsey and Hollow Crown have proved worthy of recommendation.

Of several varieties of beets tried, Dark Stinson and Detroit Dark Red have given the earliest roots of edible size. The quality of these varieties is good. Later maturing varieties of beets which are worthy of a trial are Black Red Ball and Improved Blood Turnip.

Red Top White Globe is the best turnip we have tried. It produces large roots of good quality and flavor. Purple Top Milan is a smaller, earlier variety, but the quality is not so good. White Fleshed Neckless, Breadstone and Imperial Hardy are

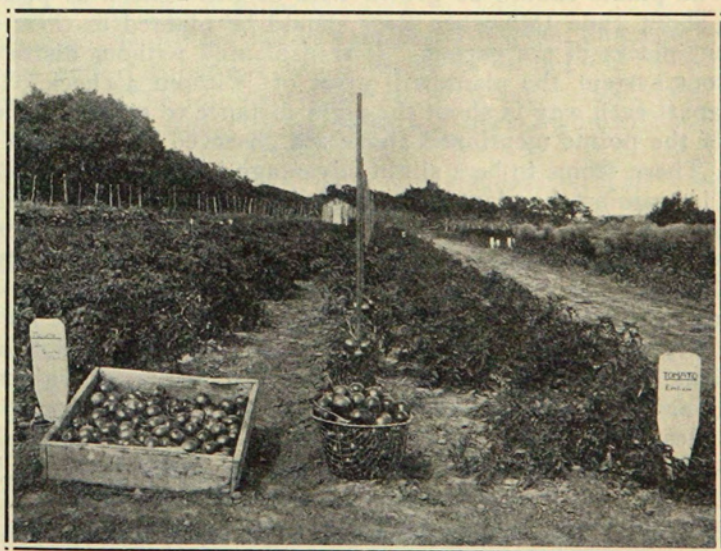
varieties of rutabagas which have succeeded. Some of these should always be grown for winter storage.

Any varieties of radishes grow well. Rapid Red is one of the quickest maturing. Other desirable but somewhat later varieties are Vick's Scarlet Globe, French Breakfast, White Olive Shaped and White Icicle.

Sweet Corn.—A number of varieties of sweet corn have been tried out, but Golden Bantam is the best of them all. It is one of the earliest and is of good quality. Extra Early Adams is an early, large-eared variety but cannot compare, as far as quality is concerned, with Golden Bantam.

It frequently pays to take a chance with sweet corn and plant it before all danger of frost is past. If the plants escape, valuable time is gained, while if they are caught by late frosts, the loss is small. It is not worth while to try to grow the late maturing varieties such as Country Gentleman and Stowell's Evergreen as the season is too short for them. Only the earliest varieties should be grown.

Tomatoes and Peppers.—The tomato is always a desirable vegetable, but at high altitudes it is usually scarce and high in price. It requires some care to grow tomatoes under these conditions and one is apt to consider it a more or less hopeless task. However, this is not the case. We have grown and ripened quan-



Tomato Plat. Good tomatoes may be grown by selecting early varieties and handling properly. Training to stakes gives somewhat earlier results.

tities of tomatoes at Fort Lewis with little trouble. Success with this crop depends upon the *selection of early varieties* and *proper handling*. The warmest, sunniest location in the garden should be chosen for planting to tomatoes, and the soil should not be too rich. The plants should not be over irrigated, but given just enough water to keep them growing.

Seed should be sown about April 1st, and a hotbed is very desirable for this purpose, although plants may be grown in the window of the living room or kitchen. Planting earlier than the first of April is not recommended as the plants become stunted before time to put them in the fields. Small boxes of soil make convenient places for planting the seed. When the plants have formed the second pair of leaves they should be transplanted into other boxes of soil, giving them about two inches apart each way. As the plants should be well developed and of good size when planted outdoors, they ought to be given still another transplanting when they have begun to crowd. If six-inch paper or clay pots can be used for this, better results will be obtained as the plants will then not have their roots disturbed when set outdoors. These pots may be secured from the nearest florist or may be ordered from seed houses. Since the home garden does not require a large number of plants this is not an expensive item. Clay pots may be used for years, but the less expensive paper ones will last only one season.

The plants should be grown with as little check as possible until about June 15th when they should be planted in their permanent places in the garden. If transplanted without disturbing the root system, the plant will grow off without a check. Four feet apart each way is about the right distance to set the plants.

If the points mentioned above are observed success will follow. There seems to be a slight advantage in the matter of earliness, in training the plants to a *single stem*. This is accomplished by pinching out lateral branches when just starting. The single-stemmed plant so obtained should be tied to a stake to hold it up, as it will reach a height of four to six feet, before the season is over. It may be stopped at any desired height by pinching out the tip.

Only the earliest varieties of tomatoes should be tried. Spark's Earliana has always given us the earliest fruits, though some others are just about as early. Of these the following have proven most desirable: I. X. L., Prosperity, King of the Earlies, Burbank, Earliest of All. Chalk's Early Jewel and John Baer, both much grown in Colorado, have not succeeded at Fort Lewis.

We have been able to grow the large bell peppers with less trouble than tomatoes. The plants may be handled the same as tomatoes, except that it is not necessary to transplant into pots

Ruby King and Early Neopolitan are suggested as varieties which may be tried.

Vegetables for Greens.—Spinach is the most important plant grown for greens. Being very hardy, the seed may be sown as early as the ground can be worked in the spring. Long Season and Victoria are both desirable varieties.

Swiss Chard is a leaf beet which makes good greens. It should be planted after the middle of May. Beet thinnings are also excellent for this purpose.

Pe-Tsai or Chinese Cabbage is another desirable vegetable which may be put in this class. When well grown, it forms large, long, solid heads which are very palatable. It is a member of the mustard family and should be planted early.

Kale is a loose leaf cabbage which is desirable for use as greens late in the fall. Its quality is improved by a certain amount of frost. Dwarf Curled Scotch is a good variety.

POTATOES

The culture of this important crop is well understood and it is hardly worth while to go into the details of cultural methods here. Bulletins on the subject are available and may be secured from the Director of the Experiment Station at Fort Collins. A few words, however, as to the work done at Fort Lewis may not be amiss.

The following varieties have been grown: Irish Cobbler, Bliss Triumph, Rural New Yorker, Brown Beauty, Russett Burbank, Pearl and Peach Blow.

Much difficulty has been experienced in obtaining good seed potatoes and considerable effort spent in attempting to purify the varieties. The hill selection method of saving seed has been followed and considerable progress has been made in bettering the strains.

It has not been feasible to determine comparative yields except in a general way. Rural New Yorker has proven to be the heaviest yielder so far, although all varieties may be expected to do well. Bliss Triumph is a good early variety, as is also Irish Cobbler. Brown Beauty has a good record for heavy yields and should succeed. It is hoped that more information along this line may be available at some future time.

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