FOR FARMERS, STOCK BREEDERS AND GARDENERS

NEWSY NOTES

BY AGRICOLA

THE BALSAM BARK LOUSE

In the spring of 1930 I noticed that all was not well with a small stand of mixed conifers to the north of my house. On looking into the matter I found that some of the larger balsam firs appeared to be dying and their trunks were infested with a white woolly insect which I imagined might be the cause of the mortality. When portion of the bark, covered with the "wool" were submitted to the Dominion Entomologist, he identified the insect as the Balsam Bark Louse, a wooly aphid known to science as Dreyfusia picea Ratz. At the time I did not consider the louse a danger to the firs, but since then its inroads have forced me to change my opinion. By last fall about 10 per cent of the trees were dead, and a large number were so infested that it is only a question of a little time till they too will die. And the trouble is that nothing can be done about it.

Professor R. E. Balch, of Fredericton, who has studied the life-history of the louse, with the intent to find a remedy for its attack says: "The young larvae are about .4 millimeter long, oval, flattened, black, with a fringe of white wax around the edge and down the middle of the back. They can be found on the bark of the stem or twigs, on the new shoots or at the bases of the buds, at any time of the year. They are barely visible to the naked eye, but as they develop into adults, white wax threads are secreted over the body and they become more conspicuous as little, white woolly masses.

There are no males and the wingless females lay about a hundred eggs in the spring. A few of the first of these have been found sometimes to produce winged forms but these do not seem to lay eggs and may be a rudimentary generation, of no importance as a factor in spreading the infestation. The great majority of the spring larvae are similar to their parents. Some settle down and remain dormant until the next spring and others give rise to one or two more generations the same year. They overwinter as first stage larvae."

The continuance of the race without the intervention of the male, is scientifically known as parthenogenesis, and has been commented on in these Notes in both its viviparous and its oviparous types.

The Dreyfusia attacks the balsam fir in two ways. When the insects attack the twigs, they cause swellings which have resulted in the name "Gout Disease" being applied. Death in this case is a comparatively slow process. The stem attack kills more rapidly, and a noticeable feature is that the resin exudes and runs down the trunk almost covering it. When the tree dies, the wood is quite dry and brittle.

This bark louse is found in every district in Nova Scotia and in the southern counties of New Brunswick. The extent of the infestation in Prince Edward Island is not known, and the writer will be pleased to hear from correspondents who can furnish any observations.

Professor Balch intimates that spraying with a lysol solution has been found effective against the louse in plant nurseries, but this is out of the question under forest conditions. He has imported a predaceous fly from Europe in the hope of controlling this pest "but it will be some time, however, before we can say whether it is likely to be successful in our climate."

The writer has observed white woolly masses in the buds of Scotch Fir, and black spruce, and is inclined to think that this was a tentative attack of the bark louse.

THE BIRDS AT POWNAL (Continued)

The birds observed in 1929 were: Robin March 22, Song Sparrow March 22, Flicker April 11, Hermit Thrush April 12, Myrtle Warbler April 16, Wood Pewee April 22, Barn Swallow May 7, Purple Finch May 7, Goldfinch May 23, Kingbird May 29, White-throated Sparrow, May 20.

In 1930: Robin March 30, Song Sparrow March 26, Junco April 1, Hermit Thrush April 12, Flicker April 15, Myrtle Warbler May 4, Purple Finch May 6, Barn Swallow May 7, Yellow Warbler, May 16, White-throated Sparrow May 19.

In 1931: Junco April 3, Robin April 4, Song Sparrow April 4, Hermit Thrush April 10, Purple Finch April 20, Flicker April 21, Myrtle Warbler May 7, Barn Swallow May 9, Goldfinch May 23, Kingbird May 29, Black-billed Cuckoo Aug. 24. (To be continued.)

THE HERALD MOTH

Readers may remember that I mentioned a moth which was found in the cellar in February, having apparently just emerged from the pupal state. I sent a description of it to Dr. McDunnough, the Chief of the Division of Systematic Entomology, who writes: "The moth you mention is, as you surmise, the Herald Moth, Scoliopteryx libatrix, the larva of which feeds on willow, the adult appearing early in the spring. I presume in your basement it was warmer than outside, and this will account for the early emergence."

Some years ago (perhaps ten or twelve) I had seen the Herald Moth in the collection of Mr. J. Robert Mutch, at Mount Herbert, and remembered its appearance.

THE ORDERS OF INSECTS (17)

The Neuroptera is the last of the Orders whose members undergo a complete metamorphosis; that is, they change from the egg, through the larval and pupal stages to the perfect insect.

The pupa is ordinarily in a cocoon; its members are free, and it is active just before transformation.

The adults are four-winged insects, with broad, membranous, many-nerved wings, more or less clothed with hairs but without true scales. Very frequently the hairs are on the nerves only. The mouth is formed for biting but (unlike the last Order, the Mecoptera) the head is in no case prolonged into a beak-like structure. These insects are carnivorous, and some of the larvae are aquatic. On account of their much reticulated wings with numerous cross-veins the Order has been given the name of "Lace-winged Flies."

The commonest of these flies, and one readily recognized by the amateur, is the gauzy-winged "Golden-eyed" (Chrysopa perla) a rather pretty fly of a greenish color. The female deposits her eggs in a remarkable way, to preserve them from the attacks of parasitic and other insects. Placing the tip of her body to the place selected (a stem or a leaf) she draws out a glutinous secretion no thicker than a hair, and sometimes an inch long. This immediately hardens, and she proceeds to cement an egg on its tip. A group of these eggs, perhaps ten or twelve in number, reminds one of the capsules of a patch of moss.

The larvae of the Golden-eye, as soon as hatched, begin to earn the name of "lions des pucerons" (plant lice lions) as they are called in France. They are indeed ferocious little fellows, for, when they find a colony of aphids, they camp on the spot, each one feasting on the aphids at the rate of two a minute. Some of them like Hercules, clothe themselves with the skins of their victims, while others use pieces of lichen for the same purpose; that is, to camouflage themselves from the prying eyes of the

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FEEDING THE NEW LAWN

Once a lawn is made, basic changes are expensive, if not almost impossible, without doing the job all over again. So here's a case of where it pays to look before you leap. Drainage, physical texture of the soil, slope, good seed—all are important; but no one item is more important than is the incorporation of a good supply of available plant food in the soil.

Most new lawn failures are due to a lack of nourishment. For full, vigorous development, grass needs an abundance of plant food. Unfortunately, most soils in cities and towns do not provide all of the needed elements of nourishment in the right proportion. To obtain the beautiful growth desired, complete plant food must be added to the soil.

If you want to assure the beauty of your lawn, use a reliable brand of complete plant food. When the seed bed is completed, spread the plant food evenly over the surface of the soil at the rate of 4 pounds per hundred square feet, and work into the top few inches of soil. The plant food can be applied most satisfactorily by using a plant food spreader. If the lawn is small, or if it is inconvenient to obtain a spreader, the plant food can be scattered effectively by hand.

It is preferable to wait several days before seeding, but not necessary, providing the plant food has been worked thoroughly into the soil.

In case the grass seed has already been sown, wait until it has grown 2 or 2 1-2 inches in height. Then when the grass is dry, apply 2 pounds of plant food to the 100 square feet, and wet down thoroughly. If water is not available, be sure to run the back of a rake or a light drag (like a steel doormat) over the grass to shake plant food off the grass blades.

To keep the grass vigorous and strong, apply 2 pounds of plant food per 100 square feet every six to eight weeks, applying when the grass it dry, and wetting down thoroughly.

FUR FARMING and ITS ACTIVITIES

OUR FUR MARKETS—THEIR ACTIVITIES — CONDITIONS WHICH INFLUENCE PELT PRICES — OUR CHIEF FUR CENTERS AND THEIR OPERATIONS.

There are certain conditions and influences which control these markets, the prices paid for pelts and many other factors not generally understood by the fur farmer, who, of course, has no adequate means of keeping in close touch with the great fur centers of the world. The fur farmer has pelts for sale, and he is interested in getting the highest possible price for his product. He knows these fur-bearing animals were created for mankind and for the benefit of all who could afford to use them.—For warmth, comfort and pleasure, there is nothing to take the place of furs.

Our Canadian furs are popular all over the world—and in this respect the Silver Fox is in the forefront of them all. In the European centers of fashion our furs are eagerly sought after, and a woman in these places does not consider herself well-dressed unless she is in possession of a piece of Canadian fur.

The commercial history of Canada is closely linked with the fur trade, and from the early days right down to the present time, furs have been an important article in the domestic and foreign trade of this country, and there are few commodities in common, everyday use, which distribute their benefits so widely.

THE GREAT FUR CENTERS OF THE WORLD

The great fur centers of the world are today located in London, England, and today we find a larger amount of capital invested in the fur trade than in any other period of its history.

In our large cities many thousands of persons derive their support from it—they are employed in the different branches of dressing, dyeing, and manufacturing furs into various commercial forms for selling, etc., to the large wholesale houses throughout the land.

All these find a ready sale, and so we find this gigantic and wonderful industry a tremendous source of profit, which, should the supply of furs be shut off, would cease.

Those engaged in the business of fur farming will, therefore, realize what an important factor is at stake as regards the future supply of raw furs. The fur centers mentioned above look to Canada for at least a very large portion of their requirements in raw furs.

Just here it may be mentioned that at one time, previous to, and for several years after the Great War, the largest fur center was in Germany, at Leipzig, and all the larger cities of Europe looked to this city for their supply of raw furs. Large quantities of these raw furs of all kinds annually found their way to this German city, where through the medium of cheap labor, they were manufactured into various classes of garments and distributed throughout all sections of Europe — many of these same garments even finding their way back to Canada, and being placed on the market in competition with the Canadian manufactured article.

Now, however, all this is changed. Canadian fur production has greatly increased. Germany, through social and political agencies, has lost her prestige as a great fur importing country, and it is seldom that we now hear Leipzig mentioned in connection with fur importations of any kind. In the meantime our Canadian fur products are finding a ready and profitable market in all the European countries, principally through the medium of the great Fur Auction Sales Rooms of The Hudson's Bay Co., Lampson and Co., The Fredk Huth Co., and others, of London, England. Other important fur centers are situated at New York, St. Louis and Seattle, in the United States, but due to the high tariffs on furs going into that country, these markets are of little or no use to the Canadian fur producer.

The London fur sales may be said to control prices in all the leading fur markets, not alone on the other side of the Atlantic, but here in Canada and the United States as well. The prices ruling there are always an important factor in influencing the prices paid elsewhere throughout the world.

In Canada, Montreal is the market center of the fur industry. Here seasonal Auction Sales are conducted on a large scale in all kinds of furs. Buyers gather there from all parts of the North American Continent, some coming from as far away as the British Isles, France, Germany, and other European countries.

In addition to Montreal, Canada has several other important fur centers, where annually considerable quantities of pelts are disposed off. These are located at Winnipeg, Edmonton and Vancouver.

VISITING A FUR AUCTION

Most peoples conception of a Fur Auction Sale is that they would see on view thousands of pelts piled in great heaps, one on top of the other. Nothing could be further from the truth. As a matter of fact these valuable commodities are carefully hidden away in storehouses prepared for their reception —and they are jealously guarded, too. Unless you are an accredited buyer, or vouched for by some one in authority, you could have no opportunity of seeing them until they are placed in the Auction Room in sample lots.

The actual buying by those in attendance at the Sale is done from catalogues in which are listed all the furs to be offered at such auction. The listings of the different pelts are in lot numbers, the selling being done from the sample lots on display. In the catalogued list you will not only find the Silver Fox, but thousands of other skins, such as mink, skunks, muskrats, wolves, and numerous other fur-bearing animals. Each of these have interested buyers when they are placed on sale by the auctioneer.

A visitor to these sales, if he is interested in the buyers around him, will note that there are several hundreds, perhaps, present, and that each one of them has before him the catalogued list, and that when an item comes up in which he is interested, he goes right after it.

The experience of a visitor to one of these Fur Sales will prove interesting and delightful—the sight of the many beautiful furs of all sorts is one that will linger long in the memory,—especially that of the incomparable Silver Fox. And then, too, just imagine, if you can, the joy, the delight and pleasure these beautiful furs are destined to bring eventually to the most aesthetic feminine mind.

WHERE THE BUYER STANDS

Long before the season for Fur Action Sales are due to commence, the buyers usually have in hand orders from the manufacturers for perhaps large or small quantities of pelts of various kinds. The manufacturers, in turn, will have orders booked for numbers of fur garments for which he requires these pelts. The prices the manufacturers are to receive for these fur garments has already been fixed, and they, therefore, know exactly what prices they can afford to pay for the skins they need. On this basis he goes to the fur dealer to make his purchases.

The position, then, of the raw fur dealer is this,—he must figure his profit, and then buy the pelts at the manufacturers' price, less his own profit.

It will thus be seen that this buying creates markets at certain prices—usually of an average figure. Frequently it happens that the pelts required by the manufacturers are scarce, or those having such pelts for sale are unwilling to sell at the prices offered—and in such cases the manufacturers are forced to offer a higher price or go with-

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SEED SUPPLIES SUFFICIENT

PLENTY OF CLOVER AND TIMOTHY—RED CLOVER POPULAR

A survey of leading Canadian seed houses indicates that there are ample supplies of all field seed to meet the farm demand this spring. Quality, it is reported,is unusually high and in the case of clover all seed is home grown. All this seed has been carefully cleaned and of course has been government graded, in contrast to a few lots lying around the country which buyers refused because of the high weed seed content. Both seedsmen and government expons are again warning farmers against the purches of any ungraded seed, which almost invariably is responsible for the serious spread of weeds.

There are ample supplies of Canadian grown, red clover to meet the demostic demand and it is expected that this will be sown freely this spring. In the last few years much better catches of red clover have been reported and the crop has fully regained its old popularity. From every standpoint it is recommended, because it produces excellent hay, is easily handled, and is one of the best export seed propositions offered. Last year there was a good demand for Canadian red clover seed in Great Britan and on the Continent and it is always wanted for Canadian consumption.

Turing to alfalfa the situation from a seed selling standpoint is not so favorable. At present there is no export outlet. Before the present high traiff there was a splendid market for Canadian alfalfa in the States and while there is more chance of this tariff being modified than for some years past, nothing definite is assured and without an outlet in the States Canada cannot market profitably more seed than is being produce at present. There is of course, a good domestic demand. The crop is popular because once a field has been seeded down to alfalfa it should be good for five to ten years and in a dry season this crop will stand up better than most clovers. Seed supplies this spring are ample and prices moderate.

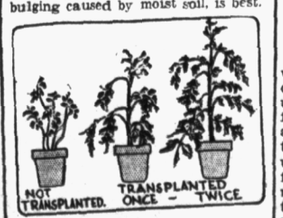
Alsike is another seed crop which cannot be increased indefinitely without the opening of the American market. There is a very fair outlet across the Atlantic which has been sufficient to take care of the greatly reduced acreage of the last few years but as the domestic demand is limited and no great expansion would be advisable without some definite assurance that Washington is prepared to lower the tariff. However, there is less opposition to the States than some other varieties of seed.

Recently more timothy has been raised for seed purpoess in Canada and so long as horses are there will be a market for this crop. Prices have been favorable to seed growers and as a result seedsmen and government officials are expecting as increase in acreage.

TOMATO PLANT TECHNIQUE

Growing tomato plants at home is not only an economical way of securing them for transplanting later in the season, but is a very simple task, and one that will be enjoyable because it brings the garden indoors when the inclement weather makes outside work disagreeable. It also gives the gardener a chance at the newer and choicer varieties that are now regularly stocked in the plant market.

The quantity of plants desired will determine the method of planting. For those who are interested in a very few, a flower pot will do, but for most a small box, strongly wired or braced to withstand the bulging caused by moist soil, is best.



It can be made at home from apple box boards or any kind of crating material, or simply a cigar box will serve the purpose.

Seed should be sown in rows about 2 inches apart. Sow thinly, so that when it comes time to transplant the little seedlings will not interfere with each other. Crowding the seed will cause trouble. Regulating the temperature so that neither extremely hot or extremely cold conditions can prevail. The soil should not be allowed to dry out, although a waterlogged condition will be worse. A uniform moist condition at all times is best.

Subcessful tomato growers know that transplanting is essential. It is a good idea to have the boxes ready for this, and when the seedlings reach a height of 2 inches, or have developed two true leaves, they should be carefully moved to small paper or clay pots. A good fibrous root system is developed in this way, as well as stockier plants to withstand the wind and rain of the outside garden.

It is often a good plan to set them out in the open air on warm days, as they require a lot of good clean air and sun. This procedure helps offset the spindling that might result from too mild an atmosphere. Light, sun and air is the rule for tomatoes.

About six weeks are required to bring the tomato plants to a point where they may be transplanted into the outside garden, using the date of the last killing frost as recorded by your local weather bureau as a starting point, you can be sure of a healthy, healthful crop.

If as they grow they are repotted in larger pots they will develop into larger plants as the illustration shows.

Annuals For Hot Spots

A hot dry summer season may be a handicap for most annuals, especially if they are planted in dry, sandy soil. But gardeners who work under such conditions may insure themselves of abundant bloom by trying some of the varieties more suited to the situation. There are several annuals which bear flowers plentifully under hot, dry conditions. The California poppy (eschscholtzia) is a good example, as is the Star of Veldt, known as dimorphotheca, and the old-fashioned rose moss, or portulaca.

The original golden yellow of the California poppy, state flower of that far western state, has been developed into many beautiful tones of a long color range. Seed should be sown where wanted, because it does not like transplanting.

A foot of space each way is the best method of planting if full development is desired. Where quicker covering of the ground is wanted, 6 inches apart will accomplish the purpose, but it is a good idea to thin the plants to the proper distance as they develop. Since crowding results in poor blooms. The California poppy does even better when put in rich soil. In long dry spells, the flowers are likely to be somewhat smaller, but they will revive admirably with an occasional soaking.

Like the western poppy, the South African daisy, diniorphotech, has been developed to include many variations of color. Originally producing shining, burnt orange daisies with black centers, it may now be had in many colors and is an excellent subject for the cutting garden. Scorching hot weather affects it but little, and it is one of the easiest blooms to grow. Transplanting should be done sparingly, if at all, as the plant will do best where first planted. Plants should have 6 inches of space.

The portulaca, although not such a versatile flower, is particularly suited to hot weather conditions. They are at their best then, and when used as an edging plant they show up very beautifully.

Colorados Stick To Potatoes

The idea that petunias might be of great value in the control of the Colorado potato beetle in potato plantations in Canada is of little or no practical significance, according to the Entomological Branch of the Dominion Department of Agriculture. During recent weeks widespread newspaper notice has been given to the idea that potato beetles prefer petunias to potatoes, that petunia foliage was poisonous to potato beetles, and finally that potato beetle control could be affected by planting a suitable number of petunias in potato fields or patches. By this manoeuvre, it is suggested that beetles would be attracted to the petunias and after feeding on them would perish.

The original reported observations were made in France and to-date, as far as is known, are without scientific confirmation. Definite entomological information available in France quite clearly controverts the idea, and even when the beetles did eat small quantities of petunia foliage they did not die. This definite information is in harmony with the complete absence of any observed preference for petunias by these beetles during the many years of investigation of this insect in Canada and upon the North American continent in general.

Canada's Maple Products

During the four years 1927-1930 inclusive, the yield of maple products in Canada, expressed in terms of sugar, averaged 31,386,129 pounds. During this period conditions were favorable, but in the following three years, as a result of low precipitation and adverse weather conditions during the maple season, production was greatly decreased, averaging 20,567,156 pounds of sugar. The 1933 production was 18,408,280 pounds. The wholesale price of syrup in 1933 was $1.24 per gallon and of sugar 8.5 cents per pound as compared with $1 per gallon for maple syrup and 9 cents per pound for maple sugar in 1932. The average wholesale price of sugar from 1927-2931 was 15.8 cents per pound and of syrup $1.54 per gallon—The Agricultural Situation bulletin.

Freezing Small Fruits

Formerly very low temperatures had been advocated for freezing small fruits, some recommendations being as low as 80 degrees below zero Fahrenheit, says the Dominion Horticulturist. Such low temperatures are not common in the average cold store and expensive to maintain, and there is no doubt that this has militated against the widespread use of this method of fruit preservative. Work of the past few years has revealed that such temperatures are not essential. At Ottawa at the Experimental Farm satisfactory freezing has been done at 12 degrees F., and the U. S. Department of Agriculture have reported temperatures as high as 18 F., as being satisfactory for small containers. Such temperatures greatly cheapen the cost and make possible the greater extension of this method of fruit preservation.

Make it a point to obtain one or more of the 1934 novelties for your garden. The All-American selections are especially outstanding this year.

Growing the Edible Roots

Grubbing roots for food has been an occupation of mankind since the dawn of civilization and although modern man has invented machines to take the place of the primitive fork or finger, making the task of growing comparatively simple,there has been little essential change in popularity. The roots still remain staple food products, and next to bread form the most important part of the average menu.

There is a long list of vegetables roots, headed by the potato and including onions, turnips, radishes, carrots, celeriac, beets, parsnips, salsify and sweet potatoes. Of all food plants including also those of which we use the fruit the seeds, the leaves or the stalk, the root group is most important and forms the bulk of all vegetables grown for human consumption.

They are the mainstay of the garden, and starting with the radish they can be found from early spring all through the season even winter permitting a few of them to survive.

In the main root crops demand a rich soil of considerable depth for their best growth as they shoot down deeper into the ground for their food than corn or peas, or beans which are comparatively shallow-rooted. One of the most important features of these vegetables is their ability to keep over long periods of time. Freshness is not such a necessary quality here although decidedly a desirable one, as they often loose moisture and crispness after lengthy periods of storage.

The soil should be dug deep, with a liberal allowance of plant food added. Not so long ago one of the many food cults sprang up which advocated the abandonment of all root crops as food for human consumption, but like all fads of its kind it prove nothing but a transitory delusion, and was soon forgotten. The potato alone would waylay any chance of a revival of this absurd idea, for it furnishes us with one of our most important means of sustenance.

Two Brilliant New Verbenas

Dannebrog, Another Sparkler For The Verbena Fam'ly.

Two verbenas of unusal brilliance were the subject of much comment during the All-American trials and the final selection for awards. They are Dannebrog and Spectrum Red.

The former comes to us from Denmark, and was given an award of merit. Its intense scarlet coloring makes it a charactistic member of teh striking verbena tribe, and its contrasting large white eyes, coupled with a compactness of growth which opens up new uses in the garden make it one of the valuable new flowers of the coming season. It runs true to type, and is an excellent bedding plant.

Spectrum red, as the name suggest's is a dazzling scarlet, living up to the verbena reputation for showiness and sparking color. It is a free flowering bloom, with a spreading growth that holds its place in the summer picture from warm weather to killing frost.

Although hardy in the lower South, both of the new verbenas should be treated as half hardy plants in most parts of Canada, Sow seeds early in the spring in flats or the hotbed, giving them a moderate amount of moisture.

Germination takes place in from three to four weeks, and they may be transplanted to the garden only when all danger from late spring frosts is past

Where early flowers are not demanded, seed may be sown in the open when the ground warms up and flowers may be had by late July or early August. To obtain the best flowers do not crowd the plants. At least 1 foot each way should be allowed between plants a strong plant will often spread over 3 feet. The habit of growth is trailing the flower stems rising only a foot or so. It is an excellent ground cover under gladioli, margins of shrubbery plantation It also makes an excellent window box subject

LIVESTOCK PROBE ENDS

(C. P. by Guardian's Special Wire)

OTTAWA, March 27—The meat packers of Canada fix the hog differentials in vogue at all livestock markets, the Stevens Committee of the House of Commons was told today. Within two weeks they have imposed the differentials on the Montreal Exchange, the last open market in Canada.

In a dramatic climax to the day's session before adjourning over Easter, Norman Sommerville, committee counsel denied evidence given 10 days ago by J. S. McLean, President of Canada Packers. Neither the Federal Department of Agriculture nor the joint swine committee of Canada "have at any time taken any responsibility for or had anything to do with fixing the differentials. These are fixed entirely by the buyers and packing interests.

"Mr. McLean", continued the committee counsel, referring to the head of the biggest packing house in Canada," said it was the joint swine committee which set these differentials. That is not the fact because we have verified that, not only from officials of the joint swine committee but from the government. They are entirely the imposition of the buyers."

Growing Head Lettuce

Lettuce is the most common of the salad vegetables crops, being grown in practically every garden. There are two general types, head lettuce and leaf lettuce, of which popularity is the ease with which it is grown. Head lettuce is a more difficult crop to grow although it has been demonstrated that satisfactory crops can be produced in this district, providing certain precautions are taken.

First of all, it must be borne in mind that lettuce is a cool season crop, thriving best under the cool growing conditions of spring and fall. It will not head properly during hot weather, and often goes to seed under unfavourable conditions. Tenderness and flavour are dependent upon uninterrupted growth. These facts result in the common practice of growing two crops of head lettuce per year, a spring crop and a fall crop.

For the spring crop, the seed should be sown under grass eight weeks before the date for field setting, which will vary according to the locality. At the Dominion Experimental Station, Fredericton, N. B., seed is sown about the middle of March, transplanted when the first true leaves appear to a distance of two by two inches, hardened off early in may, and set out in the field about the middle of May. This crop will make the bulk of its growth before the extremely hot, dry weather of summer sets in.

For the fall crop, seed sown in July will give a marketable crop from late September until freeze-up. This seed may be sown in the open, if favourable growing conditions can be maintained. Since there is danger of hot, dry weather at this peroid, flats are commonly used as control of moisture conetions is thus within the power of the grower.

The distance between rows and plant in the field varies according to conditions. If land is at a premium, rows may be spaced 15 inches apart with plants 10 to 12 inches apart in the row.

Cultivation should be thorough and frequent enough to maintaine surface mulch. If there are no weeds present and the soil is not crusted, nothing can be gaind by cultivation. In fact considerable damage may be done, as a lettuce plant has a small root system with many roots near the surface of the roil, and even with shallow cultivation, many of these may be disturbed. Two side dressings of nitrate of soda, at an interval of approximately 2 weeks, and at the rate of 1 pound per 200 square feet, will help to maintain a satisfactory growth.

Certified Seed Potatoes

(Eperimental Farms Note)

Growers who have not yet secured their seed popatoes are advised to place their orders quickly to avoid disappointment. The Dominion Seed Potato Certification Service reports that the bulk of the seed crops was sold last year at little more than table stock prices and consequently there were two thousand acres less seed grown in 1933. The quality of the seed crop this season is very good. The premium is much highter and the demand is particularly good The export shipments already exceed 1200 car lots as compared with 750 car lots at this time last year and the loss in storage from frost injury has been much heavier this winter than usual, therefore, the supplies now available for home markets is the smallest in many years. Certified Irish Gobblers in particular will be scarce at planting time.

Purchasers should always demand to see the official tag issued be the Dominion Plant Disease Inspection Service, on each and every bag of seed potatoes. The tags are issued free to all stock which qualifies as seed. therefore, if the Government official tag is not on the bag, then the potatoes are table stock potatoes only, and seed prices should not be paid. There are only two grades of seed potatoes "Certified Extra No. 1" and "Certified Small Sized 1¼ to 3 ounces"; if the tags do not show these grades, then the potatoes are not seed potatoes.

Lists of growers having certified seed for sale are obtainable free, from the Dominion Botanist, central Experimental Farm, Ottawa.

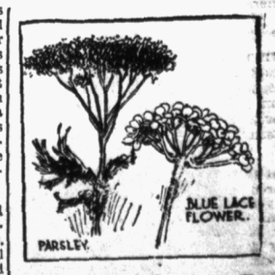
The Umbrella Bearers

One of the most interesting, as well as important, of the botanical orders is that of the umbelliferae or umbrella carriers. The name comes from the way in which blossoms are borne on stems that cluster at the top of the flower stalk in an umbrella-like form. It is usually a flat-topped cluster formed by stems radiating from a central axis centering at the stalk to give the spreading effect of an open umbrella.

Carrots, parsnips, parsley and celery are the chief garden vegetables belonging to this family. Among the flavoring herbs, dill and caraway are represented, and in the flower garden the blue lace flower, didiscus coerulea, and the popular wild flower, Queen Anne's Lace, are common. The last mentioned is valued for its beauty for cutting, but is seldom allowed in the well-regulated garden because of its spreading propensities.

The vegetable 'umbrellas' are seldom seen in bloom. The carrot and the parsnip are both biennial plants which will not bloom until the roots are formed. Occasionally, however, you will see a parsnip, which was not dug up in the spring, in bloom and displaying its yellow umbrels; the carrot is not hardy enough to stand the winter cold, and consequently grows only as an annual.

The caraway and the Queen Anne's Lace are most characteristic of the umbelliferae bloom. Among



Two Members of the Large 'Umbrella' Family

those that are not as distinctive is the sea holly, or eryngium, a perennial member of the family, which is a veritable paradox, as it resembles a thistle rather than an umbrella.

The old-fashioned myrrh or sweet cicely of the old-time garden, grown for its pleasantly scened foliage, is another member of the family. Roots which furnish foods may be found on some of the tropical varieties. It is thought that the poison hemlock which Socrates drank is another species.

The botanical names for the umbrelliferae family are interesting but practically unknown to amateur gardeners. The carrot is a daucus, the parsnip a pastinaca, celery an apium, and parsley a petroselinum.