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Vol. 3,

DECEMBER, 1892.

No. 12.

THE NEBRASKA BEE-KEEPER.

Official Organ of the Nebraska State Bee-Keepers Association.



*Devoted to Bee-Culture, Honey Production,
Fruits, Flowers, Etc.*

PUBLISHED MONTHLY.

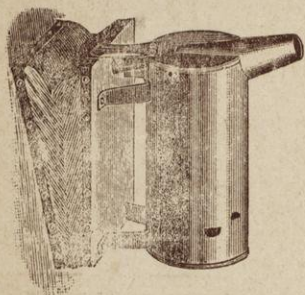
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Stilson & Sons, Editors and Publishers.
York, Nebraska.



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Official Organ of the Nebraska State Bee-Keepers Association.

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Bee Keepers should Visit More.

THE man or woman who always stays at home generally has narrow views. Nothing broadens one's intellect more, supplying new thoughts and ideas than rest and recreation in a trip from home and its surroundings and rub against his fellow men. Contact with others, not only gives them new ideas, but to you as well, will come new thoughts or even every thought or scene will be presented in a new style, and we come back to our work refreshed, and in every way better prepared to take to take up life's burdens anew. Dull indeed is he who cannot learn something from everyone we meet. This thought was forcibly brought to our notice while at the state fair this yr. One day while standing by our exhibit of bees and supplies, a very well dressed gentlemanly appearing man came along and after a hasty look through the honey hall, said: "You bee men are always putting up some thing nice for show, but why don't you learn something new? It is now over 60 years since I first knew how to care for bees, and for the past 50 years, I have learned

nothing new. And if by talking a whole day with you I could learn something I do not now know, I would gladly pay you \$10.00 for your time." He, being a much older man than ourselves, we replied: "If we could talk with any beekeeper, no matter how unlearned, an hour and not get some new ideas, we would gladly pay him for his time." Later in the day the old gentleman came back, saying, "I have learned a great deal today, and the most important thing of all is, that I don't know all about beekeeping." During the conversation which followed, we found that this man had not come in contact with his neighbor bee-keepers. He had been plodding along, content in his own conceits, little heeding and caring less what others were doing, and had fossilized, and when, like Rip Van Winkle, he awakened from sleep, found himself behind the times. We sold him "Cook's Manual". We predict that as he went home his family could see a change for the better in the man, not from our work, but from his coming in contact with, and seeing what such men as Davidson, Kretchmer, Levering, White, and others had produced and were doing with their bees, and the personal visit with

each of these men that opened his eyes and showed him what and where he was.

Books, papers, or letters, would never have had the same effect. It must be by actual contact. So we say again let every bee-keeper visit his neighbor bee-keepers. Get up neighborhood visits. Take your lunch baskets and your wives and go to neighbor A's this month and then to Bro. B's next month, and so on. No need of talking bees all the time but enough to know how each one is doing. Then have a general good visit. It will do you all good. The long winter is now here. Don't be a clam and sit down by the fire all the time but make the winter a time for improvement mentally. It will fit you for better work when spring comes. Benefit others and the reflex action will benefit you.

As the winter season is now before us, we would urge our readers to form clubs or societies for the mutual exchange of ideas, whereby greater success may be attained on the farm, in the garden, orchard or apiary. Farmers as a class are somewhat isolated and their families do not enjoy the privileges of meetings, socials and libraries as those living in the towns, but as the long winter evenings come on, they can meet around for neighborhood visits and by systematic efforts can have select readings from standard authors on all subjects interesting to the farmers followed by the personal practice of those present.

One line of work may be taken up one evening and another the next time, which would prove instructive to all attending.

Try it.

◆ ◆ ◆
 Shall Bees Be Taxed.

There has been considerable discussion in some places the state this

season regarding the subject of taxation.

With the disease of foul brood, scattered in some parts of the state there should be some method of providing pay for an inspector whose duty it should be to see that all infected colonies were either stamped out or cured, so that the disease should not spread, by shipments and contact with diseased colonies, old hives or old combs. As it now stands there is no fund to pay the expenses of an inspector, and consequently his services are ignored, if possible. It is a serious quotation, as to how best to combat the disease and confine the infected apiaries and then stamp it out. As there is no way of preventing the sale of infected colonies, or punishment for selling, we would like to see a rigid law passed this winter, making the sale or keeping of infected colonies a misdemeanor and heavily fineable, and also would not object to having bees made taxable for the purpose of raising a fund from which to draw pay for the services of an inspector who should be a qualified officer in his own county with power to look through all apiaries when the disease was suspected.

A tax of 5 cts. for each colony on hand when the assessor makes his yearly visits, would not be oppressive to the bee-keeper and would prove a source of information as to where bees were kept and would create a fund sufficient to have the inspector to look more thorough for disease than as it is now. This may not be the best way of reaching the trouble. If someone has a better plan, we will gladly give space to ventilate it. Let us have the best plan, whatever it is. Our Legislature will soon be in session and if anything is done for the next two years, it must be done soon.

Prof. Gillette's Lecture,
At the Colorado Bee-Keepers' Convention,
Held at Longmont, Col., Sept. 28, 29, 1892

FOUL BROOD has long been known as a true contagious disease. On account of the habit of the honey bee of living in large families, or communities, and the fact that bee-keepers are continually shipping queens and colonies of bees from place to place, this malady has greatly increased in prevalence, and there is scarcely a possibility of its extermination. If foul brood once gains entrance into an apiary it is sure to destroy every colony and spread to neighboring apiaries unless proper measures are adopted to exterminate it. On account of the extreme fatality and contagious nature of this disease and the fact that it is becoming common in parts of the state it is important that all who keep bees should understand its cause, its methods of dissemination and development, its symptoms, and methods of prevention and remedy. Probably most of my hearers are better acquainted with the symptoms and remedies of the disease than with its true cause and methods of dissemination, so I shall dwell principally upon these latter topics.

The researches of the past thirty years, and chiefly of the past ten years, have proven that most, if not all, contagious diseases, whether of plants or animals, are the direct result of the contact of an animal or vegetable parasite. Everyone understands how it is that parasites such as ticks, lice, fleas, and microscopic mites that produce itch, scabs, and mange are conveyed from one host to another, and also how it is that the particular complaint accompanying each of these parasites could not appear in its absence. Cholera, small-pox, diphtheria, typhoid fever, measles, consumption, hydrophobia, la-grippe, and other contagious diseases of animals or plants are also parasitic infections. The only reason that they are not recognized as such by people general-

ly is that the parasites, which are commonly called *bacilli* or *microbes*, are so very minute that they can only be seen with the aid of the compound microscope. And because they are not seen there are many who think they exist only in the mind of the scientist. What are these minute organisms? how do they grow and multiply? what do they look like under the microscope? and how do we know that they are the cause of contagious diseases?—are some of the questions that I shall attempt to answer.

Most of the micro-organisms of diseases are exceedingly minute single-celled plants. They are closely related to the common rust, smut, molds, and mildews with which everyone is familiar. They are the very simplest forms of plant life known, and although many are injurious, others are of the utmost importance, for without them the globe would be uninhabitable by man. The soil would soon lose all its fertility if the organic matter returned to it did not decay. Without these organisms no decomposition would take place. Animals and plants would die, but would never decompose so as to be available for plant food. There would be no fermentation of wine, beer, or other substances, no souring of vinegar, or of milk, no ripening of cream or of cheese, and in a thousand different ways might be pointed out their importance to man.

These minute germs vary in shape. Some of the very smallest are oval or egg-shaped; a great many are cylindrical or rod-shaped; some are very short and almost as broad as long; while others are as long in proportion to their breadth as an ordinary lead pencil. Of those that are long some are straight, some slightly curved or wavy in outline, and others are in the shape of a corkscrew. All when living have the power of a more or less rapid movement, so that when seen under the microscope they have the appearance

of a myriad of animated rods moving rapidly about.

The rods of the *Bacillus alvei* are remarkable for their very large size. It would require only 5,400, placed end to end, to reach one inch. Of the spores formed from the rods it would require 12,000 to span one inch. Some microbes are so small that it would require 50,000, to reach the same distance. Perhaps it would be more intelligible to say that 1,800,000 of these spores could be placed side by side on the head of a common pin. Without the aid of the high power of the microscope, we could not know that such beings exist.

In 1850, Davaine of France discovered great numbers of minute organisms looking like little rods in the blood of animals that had died of splenic fever or anthrax, but simply looked upon them as one symptom accompanying the disease and had no thought of their being the cause. A few years later Pasteur began a series of experiments to determine the cause of fermentation in wine and beer, and proved conclusively that the cause of fermentation was the presence and growth of micro-organisms, and that without these organisms no fermentation could be produced. These announcements, made in 1863, led Davaine to suspect that the rods he found in the blood of animals dying from splenic fever might be the true cause of the disease. He at once began a series of experiments in which he succeeded in producing the disease in the healthy animals by inoculating them with the blood of diseased animals.

So it was twenty-nine years ago that it was first proven that a micro-organism was the cause of a contagious disease. When Davaine announced his discoveries but few, even scientific men believed in them. Consequently the whole work was gone again by Dr. Koch of Germany in 1876, and by Pasteur in France in 1877. The results ob-

tained by these investigators proved so conclusively that the microbes were the cause of the disease that there was no longer any room left for doubt. In the meantime Pasteur in 1865 announced the results of his investigations of the dreadful silk-worm disease, known as "Pebrine," in which he proved beyond a possible doubt that this disease was caused by a particular microbe.

The discoveries struck the key-note to the real cause of all similar diseases, whether in man, the lower animals, or plants.

But, some may ask, how was it known that the cause of the disease was not some poison in the blood or tissues aside from the micro-organisms, and that these latter were the cause instead of the result of the disease? The method of determining whether or not a particular organism is the cause of a particular disease is the same in all cases. I will tell you what this method is, that you may know how carefully scientific investigations of this sort are carried on. You may tell me if you can detect the possibility of the investigator arriving at a false conclusion. To prove that a particular microbe is the cause of a particular disease it must first be determined that the organism does not occur in the tissues of a healthy animal. Second, the organism must always be found in the tissues of an animal having this disease. Third, the organism taken from the tissues of a diseased animal must be grown in nutrient media, outside of the animal, for a number of generations, and the resulting germ must produce the disease when introduced into healthy animals. Lastly, the tissues of these animals must contain the characteristic germs of the disease.

It is in this way that Cheshire proved foul brood was caused by the little organism he named *Bacillus alvei*. It is the method by which Prof. Arthur
to be continued,

What Shall We Do, and How Shall We Do It?

With this month we close up the year, and it is well that we take a look at its work from this end, as we can better see its results and the fruits of our labor than at the beginning. Then all was hope and expectation, now, it is hopes realized or expectations blasted.

When at last New Year, work for the year was planned, we were all too eager to grasp this world's goods, and laid our plans a "little large," forgetting our human weakness and that man cannot control the elements to do his bidding.

The year just passing, has been one of many blessings, and a good degree of prosperity has been given to us and ours, as well as to the State and Nation, for which we are truly grateful, and hope and trust that all our friends and patrons have enjoyed as much and more, the smiles of Providence than we.

Now as winter is upon us, giving us more time in which to examine the past and its failures, let us resolve to do better, by improvement upon former methods, so that success shall be more certain and failures less frequent. We have it in our power to obviate many of the difficulties which hinder us in our tramp to success. By careful, intelligent study and close observation, many of the littles in our way may be removed.

As we marked out our season's apiary work it was easy enough to figure up the amount of profit, or, as a neighbor said, "I now have 16 swarms. They must each cast two swarms, giving me 48 colonies. These will each make at least 24lbs of marketable honey, which will be 1152 lbs. selling of 20c will make \$234.40, and the 32 new colonies are sure to be worth \$5.00 each in the

fall making \$160 or a net total of \$394.40 from 16 swarms of bees."

We asked about the expenses, he replied, "the hives he could make himself at odd times when he could do nothing else, the sections did not cost much, and the time caring for them amounted to nothing."

We have taken a little pains to find how this man's calculations had materialized during the summer, and we find that "his bees had not done well. Some swarms had gone off and he had no time to spend looking after those left, and now there are 7 colonies and some empty boxes to begin the winter with.

I give this only as an example of how easy it is for men to plan for the future and then leave it all to "luck" for fulfilment. It is well to look to the future. Study well the past and its lesson. Use care and discretion in laying our plans, then when mapped out bend every energy to make them successful. Never say "give up" while life and health shall last. When storms of adversity shall come, as come they surely will, study your chart the closer, look upward for guidance and with renewed energy push on. But what has this to do with bee-keeping?

Every thing. The same business principles are as good here as other pursuits. Too many do not study the text books and chart. What pilot would be considered reliable who knew not every rock and reef. Then why should bee-keepers try to get along without knowing what and where are the rocks and snags in their occupation, when it is so plainly marked out in our books and periodicals that "he who runs may read." If you have not on your library shelves one or more of these books, you will never have a better time than this winter for getting and studying them, so that

you may know whether others have made a success or failure of the modes you propose to try. Don't grope in the dark when there's a light ahead.

—THE—

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York, Nebraska.

Conventions.

North American Bee Keepers Association. President, Eugene Secor, Forest City, Iowa. Secretary, W. Z. Hutchinson, Flint, Mich.

National Bee Keepers Union. President, James Heddon, Dowigac, Mich. Secretary and Manager, T. G. Newman, Chicago.

Nebraska Bee Keepers Association. President, E. Whitcomb, Friend, Neb. Secretary, L. D. Stilson, York, Neb.

Jan. 13-14, 1893; S. W. Wisconsin, at Boscobel.

It is said the honey crop of Cal. in 1884 was 9,000,000 pounds. In 1886 and 1890 it was five million pounds each year. While this year it was only one million pounds.

The Progressive Bee-Keeper, will make its appearance Jan. 1, greatly improved. The editor is putting in the outfit, so it will not be delayed in order that the printer may do some other job, as it has been heretofore

In sending to us for sample copies, don't be cross, if we don't send them until the the next issue is printed We only keep our files. We do not claim to print large editions and then store large numbers in the back room. Our entire edition is put into circulation.

Printers Ink, a printers trade journal, was excluded from the mails as second class matter the past summer, as not being a legitimate newspaper. Somebody blundered in so doing; and a continuance of the blunder was in not re-instating it or giving a good reason for so doing; especially when done by the political party in power and seeking for re-election. "Curses like chickens come home to roost."

With this issue, we close Vol. 3. The year has been on a whole a prosperous one with us. Trials and discouragements have at times been thick. Wet weather early in the season did not allow our bees to gather early honey, but by care they built up rapidly and increase and honey have paid well. Our supply trade was all that we could handle with our facilities. These we are enlarging for next year's trade. In the printing office, the "boys" have no had it all a play spell. Job work has at times been in the way of having the *Bee-Keeper* always out on time. Here, as in the supply work, we have been adding to our plant, so as to turn out more and better work.

To our subscribers, we wish to say that we have been gladdened by your payments and hope we have given you good return for your money and suited you with our work.

Hereafter we add a Horticultural Department which will, we hope prove instructive and entertaining.

To our advertising patrons, we hope our work has been beneficial to you and that our relations are such that they will continue in the future.

To all, we now wish you a Merry Christmas, as a fitting close to the year.

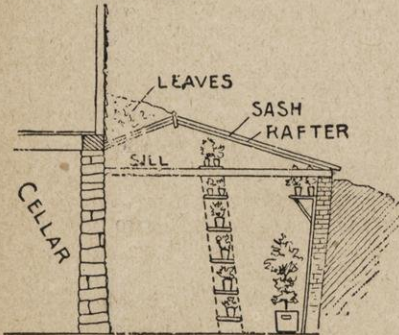
We haven't got on a new dress; only some patches on the old.

FRUIT AND FLOWERS

A HOME MADE PLANT PIT.

A Convenient Substitute for the More Costly Greenhouse.

The homemade pit depicted in the cut was originally described by a correspondent of Popular Gardening. This pit, as the illustration shows, is sunk the depth of a cellar. If this is kept warm by proper openings no other heating would be required. In very severe weather some light shutters laid over the glass at night would be an additional protection. As will be observed, soil is banked up right to the front, so there is little exposure there.



CROSS SECTION OF PLANT PIT.

If it is placed against an outbuilding that part shown "leaves" would not be objectionable, but if placed up against the ordinary dwelling this part might be of boards, or shingles even, and if lined on the inside with thick paper that would be all that would be required. By having a part of the room in under the building, back of the stage, many big plants, such as figs and oleanders, could be wintered. A place of this sort, which is made with comparatively little money and labor, serves to winter over a large number of plants, and is well adapted to the convenience of those who cannot afford the expense of a regular greenhouse.

Notable Chrysanthemums.

At the late New York chrysanthemum show were exhibited many fine varieties of this popular flower named after persons of distinction, in illustration of which may be mentioned the Chauncey M. Depew, of Japanese type and deep magenta purple in hue. The Henry Ward Beecher chrysanthemum is a large Japanese flower, high and cup shaped, very double, with thick, folded petals. The Victor is named after the son of General A. C. Barnes, and is a Chinese variety, incurved, of beautiful form and pink color, shading to silver rose in the center. The Mrs. Langtry is one of the largest white flowers in the exhibition. The Miss Minnie Wanamaker is very much like it. The Fair Maid of Guernsey is distinguished by the nature of its petals, which come out straight, so that you can see right into the center of the flower.

The Billy Florence is a new creation of this year. The inside of the petal is maroon and the outside pink. It is of the reflexed variety, with erect petals, twisted at the points. The Jack Van Nostrand is one of the best and most lasting varieties. A pot plant of this chrysanthemum took first prize at the New York Madison Square garden exhibition last year. It is a deep purple pink, shading to pale lilac, and merges into silver white with age. It is of immense size.

Camellia Japonica.

A well known and general favorite is the *Camellia Japonica*. The plant does not need heat, thriving best in a temperature a little above freezing point, but it cannot bear frost. Free access of air is of great importance, and a liberal supply of water, but not so much as to keep the soil soaked after the needs of the plant are supplied. They are grown best in well drained borders under glass. An attempt to cultivate camellias as window plants in pots generally results in disappointment, the roots not liking such close confinement, and there is apt to be too much heat or an excess of water, causing the buds to fall before opening. The best soil for camellias is a loose mold composed of black loam, peat and sand.

The Abundance Plum.

The Abundance plum depicted in the cut is an attractive fruit with its amber hued skin turning to a rich cherry color and with a heavy bloom. The flesh is



A BASKET OF ABUNDANCE PLUMS.

light yellow, juicy and tender. The stone is small and parts readily from the flesh.

The tree is a vigorous grower and ornamental in appearance. It has gained a reputation for early and abundant bearing. Thanks are due to Orchard and Garden for a cut here presented of a basket of this fine fruit.

The Cactus.

The cactus, of which there are about 1,000 species, delights in a dry, barren, sandy soil. There are two simple methods of treatment laid down for the cactus by James Sheehan in his manual on "Plants in the House." First, keep the soil about them constantly dry, and keep them in a warm place; second, the soil should be of a poor quality, mixed with a little brick dust, and they should never be allowed too much pot room. If either of these two points are observed in the treatment of cactuses there will be no difficulty in keeping them in a flourishing condition all the time. Vick's advice is, "In the winter keep the cactus dry and warm; in summer give it all the water it can use."

Care of Scions.

The scions cut before the wood is injured by frost should be kept in a cold place, but not freezing, in slightly moist earth or sand, where they will be preserved in a plump, dormant condition. The usual time for grafting is early spring, when both the stock and scion are dormant, but about ready to start

Farm, Field and Stockman advises that plums and cherries be grafted very early, before there are signs of any flow of sap or swelling of the bud. If the scions are kept dormant, apples and pears may be grafted much later, even in full leaf. The scion must be in dormant condition whatever the time the grafting is done.

Keep Dead and Decaying Blossoms from Contact with Healthy Leaves.

Plants with large leaves are often disfigured by blotches that appear at any time upon the foliage. The cause of these spots is sometimes not easy to determine. An otherwise perfectly healthy calla leaf may have a brown spot an inch long and half an inch wide near its center, and no apparent reason for its existence. The probabilities are, however, says the botanist of the New Jersey experiment station, that some days before a withered blossom from a plant above it fell upon the leaf and remaining there for a time began to decay.

Soon after the force of the water from the hose drove the blossom off, but not until it had left the seeds of decay in the leaf. In other words, the fungus, while flourishing upon the rich, succulent substance of the blossom, sent its threads into the leaf below and began the decay that finally ruined the leaf.

Fungus is not usually accused of making its attacks in a direct manner upon living tissues, but does not hesitate to pass from the dead to the living when conditions favor it. In other words, the calla leaf is safe from the attack of spores of the botrytis, but when the vigorous filaments of well established plants present themselves the resisting power is not sufficient to overcome them.

If we had found the remains of the blossom in the center of the dead blotch it would have been natural to ascribe the cause to the flower or the fungus it had harbored, but in many instances the leaf blackens without any apparent reason. Nevertheless the cause remains the same, for the source of contamination had been removed before the decay in the leaf had become perceptible. The practical conclusion is that no opportunity be given these half way parasitic fungi to gain an entrance to healthy plants. The gardener knows how im-

important is to keep all dead leaves and decaying blossoms from contact with the healthy parts. Neatness as well as health demands that the dead be kept apart from the living.

The treasurer of the New Jersey State Horticultural society states that he is successfully growing black Hamburg grapes in the open air, and he inclines to the belief that we can grow most of the European grapes (*viniferas*) in this way.

TEA ROSES.

Varieties That Give Satisfaction for Indoor Culture.

The roses best adapted for indoor culture belong to the class known as tea roses. These are of a bushy growth, and properly treated bloom the year round. The tea roses also produced in



MARIE VAN HOUTTE ROSE.

outdoor culture are endless successions of flowers during the summer season, blooming at the north until stopped by freezing weather. The Marie Van Houtte is a tea rose worthy of admiration. Exquisite in form and color, vigorous in growth, hardly less free flowering than the common China, this rose is invaluable to every rosarian. For exhibition, for buttonholes, for bouquets, for general cut flower purposes or for making a display in the garden (see illustration) it is alike admirable.

The polyantha rose makes an excellent stock for Marie van Houtte, which grows

and flourishes upon it especially well in very light and sandy soils. Marie Van Houtte was the first tea scented rose sent out by the late M. Ducher, of Lyons, having been first distributed in 1871.

The coloring of the flowers is charming in its combination of lemon, yellow and peach, and the beauty of the plant itself is great. This valuable rose succeeds everywhere, is not particular as to soil, grows vigorously, blooms plentifully and is of delightful perfume. Other tea roses well suited for house culture are Bon Silene, flowers purplish carmine; Niphotos, flowers pure white; Perle des Jardins, sulphur yellow; La France, lilac rose, and Hermosa, light rose color.

Fuchsias.

For general decoration few plants rival the fuchsia, and no house collection is complete without one or more varieties of this graceful flower. When a compact, bushy specimen is desired, pinch off the top of the plant when young. This will cause shoots to start out all along the stem. When the plant has sent up a leader a few inches high, pinch it off again, and thus repeat the operation of pinching while the plant is growing until the desired form is attained. On the other hand, fuchsias may be trained on trellises. Indeed this is preferred by many. They can be trained over an upright trellis, but Sheehan thinks that the best form is that of an umbrella. His directions are as follows:

Secure a strong, vigorous plant, and allow one shoot to grow upright until about two feet high; then pinch off the top of the shoot. It will branch out and form a head, each shoot of which, when sufficiently long, may have a fine thread or hair wire attached to the tip, by which to draw it downward; fasten the other end of the wire or thread to the stem of the plant, and all the shoots will then be pendent. When each of these branches has attained a length of eight inches, pinch off the tip, and the whole will form a dense head, resembling an umbrella in shape, and the graceful flowers pendent from each shoot will be handsome indeed. Remember to keep the stock clear of side shoots in order to throw the growth into the head.

Covering Strawberry Plants.

Mr. Augur told at a Massachusetts horticultural meeting that he likes to cover the plants pretty well during the winter, and uses from two to three tons of coarse hay per acre for that purpose. The plants do not suffer at all when thus protected, while plants exposed are more or less injured by alternate freezing and thawing. He stated further that he accepted Mr. Wood's idea of matted rows, provided they are not allowed to become too much matted. With any variety he would set the plants three feet apart, which would allow sufficient room for all needed new plants. This seems to call for a great deal of work in preparing the ground, but that is done rapidly.

The Cranberry Crop.

As the Christmas season draws near every one becomes more or less interested in cranberries. A large part of the cranberries grown in the United States come from New England, and most of these from Massachusetts, in the vicinity of Cape Cod. New Jersey is also a large producer, and Wisconsin and Michigan yield most of those grown in the west. This season the crop is about 446,400 barrels for New England, 157,500 for New Jersey and 94,200 for the west. Total output this year, 698,100 barrels against 760,000 last year and 800,000 for 1896.

An Arbor Vita from the Pacific Coast.

Thuja gigantea is a beautiful arbor vita from the Pacific coast and supposed by many not to be hardy on the Atlantic slope. It is claimed, however, that it thrives round about Philadelphia in the nurseries. No plant has been injured there, though some complaint is made about its not bearing transplanting well.

 Gems in Pear Culture.

A member of the Michigan State Horticultural society recommends cutting back nearly two-thirds of the young growth of dwarf pears. If this is not done and they are not planted deep enough to become half standards, he says they will become top heavy and tip over. A writer in *Field and Farm* advises those who anticipate planting

pear trees next spring to select the richest ground for them. Pear trees under ordinarily good conditions are heavy yielders, and so make heavy demands upon the soil for plant food.

Things That Are Told.

No flower is so popular in America with cut flower dealers as the *Bouvardia*. Its flowers, being of a leathery texture, continue a long time without withering.

Professor L. H. Pammel, of the Iowa experiment station, has applied sulphate of copper solution to young rows of pear seedlings that were afflicted with the leaf blight, and has found remarkable success from the application.

A member stated at a Missouri meeting that he formerly planted with a spade and lost half the plants. He now uses a trowel. The plasterers' trowel is best, with the handle in the middle; the masons' trowel is too narrow.

The *American Cultivator* says: "There are a few plants, like pansies, primulas and carnations that like the shade and thrive in partial light, and a northern window is a good place for blooming plants in from time to time, thus prolonging the short life of the sprays of flowers."

Interesting to Horticulturists.

Numbered with fuchsias that have been tested and not found wanting are Phenomenal, deep plum color; *Speciosa*, *Electra*, *Snow Fairy* and *Brilliant*.

The president of the Florida and California Fruit Auction house is credited with saying that "in a refrigerator car the oranges in the center of the box would frequently be rotten, but this was not the case in ventilated cars."

If the seeds of apples and pears are planted in a flowerpot as soon as the fruit is eaten they will attain a good size, fit to plant out next summer or fall, according to *American Cultivator*.

A capital of \$52,000,000 is invested in the nursery interest in 172,000 acres of land. In all horticultural pursuits the entire capital is estimated at over \$1,000,000,000 by Mortimer Whitehead from the census under the agricultural department.

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