

Lewiston Orchards Life

AN EXPONENT OF PROGRESSIVE HORTICULTURE AND THE SUCCESSFUL RURAL COMMUNITY

VOLUME 2

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NUMBER 1

The Spitzenburg, a Standard December and January Apple

THE Spitzenburg, Esopus, comprises about one-fifth of the apple orchard plantings in Lewiston Orchards. One of the finest of the older apple orchards is that of E. W. Thatcher which includes fifteen acres on Bryden avenue between Tenth and Eleventh streets, is almost entirely planted to Spitzenburgs. For the most part, the planting of the Spitzenburg here is in connection with several other varieties. The Spitzenburg has made little showing as yet in the local market, for the reason that, like the Yellow Newtown it is a tardy bearer, unless given special treatment to promote early fruitage. A few boxes of apples of this variety were produced during the past season in the Orchards.

The Spitzenburg like many other varieties of apples comes to us under different names and combinations of names, even other varieties than Spitzenburgs occasionally appearing under the name—Spitzenburg.

The early horticultural writers wrote this name Spitzenburg, Spitzemberg and then Spitzenberg, all referring to other varieties than the commonly known Spitzenburg. After the origination of the American form near Esopus on the Hudson River, it was known for a while as Spitzenberg. Later, however, in order to distinguish it from other members of this group, the name Esopus Spitzenburg was given, the idea being later to drop the name Spitzenburg and to know the apple as the Esopus. This may or may not happen, for the name Spitzenburg is rapidly becoming a standard name. It is a very shy, tardy bearer as compared with most varieties when given ordinary orchard care, however, when handled as varieties of this character should be, it becomes a very fair bearer even though it comes into bearing tardily. Clover and alfalfa mulches and proper summer pruning early tends to check the wild, rampant growth and throw the vigor into fruit production.

The Spitzenburg as grown in the Lewiston Orchards, has demonstrated itself to be a first class fruit for December use from ordinary storage, and ex-

cellent for January and February and March use from cold storage. It is truly a delicious fruit, having juicy

with the Gravenstein, Yellow Newtown Pippin and other varieties of extra high quality. It is easily the leading apple of



WINTER BANANA APPLE TREE, FIVE YEARS OLD, LEWISTON ORCHARDS.

yellowish white flesh, a rich, spicy, aromatic flavor and a bright red color. As to quality it is unsurpassed by any other apple. It easily takes its place

the Pacific Slope, and although it has not brought in the money in the past that many other varieties have, yet there will
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Community Life in Lewiston Orchards

Lewiston Orchards Assembly

The Lewiston Orchards Assembly held its regular meeting last month on December 9, when President E. A. Bryan, of the Washington State Agricultural college addressed the meeting, giving a very interesting and instructive account of his observations in the rural communities of European countries, drawing comparisons of conditions in this country, especially with regard to agricultural education. President Bryan expressed himself as much pleased with the advancement made in the Lewiston Orchards district since his former visit, several years since.

December 18, a special meeting of the Assembly was held to consider the formation of several new departments of work for the Assembly. It was decided to establish a horticultural department, with Professor W. S. Thornber as chairman of a committee of three in charge of the work. Professor Thornber explained that the work would be along lines of study similar to those of the old horticultural society, in pure horticulture and horticultural methods, and that its methods of doing would be by meetings, lecture work, study work and reading course. The "why" of the work was because we have something here which others have not and need to train all along the right lines.

In an address at this meeting by Mr. H. L. Powers, he expressed himself as much impressed with the constructive work being done by the community, who must feel the responsibility of the beginning of development; much depending upon the character of the people who lay out the work in the beginning and who ought to realize the dignity of the work being done. Mr. Powers explained the relinquishment of the orchards selling plan for the dryer movement. At the same time it was shown that the work already done in that line need not be lost but could be utilized in connection with some other plan that might be devised. That this has already been done is elsewhere explained.

At the same meeting, the formation of a social and literary department was also authorized with David A. Smith as chairman, and Mrs. G. E. Ames and Walter Eddy as assistants.

This month's meeting of the Assembly will be held January 13, when Professor W. S. Thornber will address the meet-

ing on the "Improvement of School Grounds," and Supt. F. H. Huntworth of the Lewiston public schools will speak on "Industrial Correlation of the High School." In this connection, Professor Huntworth will indicate the practical trend that progressive public schools, such as those of Lewiston, are taking in these lines.

Church Activities

During the past month, evening church services have been provided, with various volunteer speakers, including Rev. S. B. Chase, of the Children's Home, in Lewiston, Rev. E. M. Flinn of the Christian church and Frank D. Webb. Special attention has been given to the musical service at the evening meetings. The Sunday school has been prosperous and well attended.

The Ladies' Aid society, whose scope of work covers not only the needs of the church but those of the entire community, has been very active. One of the most delightful affairs under its auspices was the New Year's reception given on New Year's night, at the church to all the residents of the Orchards and all orchard owners resident in Lewiston. There was large attendance, and the result was a most enjoyable social reunion. A musical program was given, with instrumental numbers by Mrs. Kate B. Chase and Mrs. G. E. Ames, and several vocal solos by Mrs. J. B. White, who is the possessor of a voice of remarkably pleasing qualities. Professor David A. Smith gave several of his entertaining character readings. The evening closed with the serving of light refreshments by the ladies of the society. The society held its annual meeting for the election of officers, January 9, when the following were chosen: president, Mrs. G. E. Ames; first vice-president, Mrs. G. G. Ames; second vice-president, Mrs. J. L. Klapp; secretary, Mrs. H. H. Smith; treasurer, Mrs. F. B. Gano; refreshment committee for the year, Mrs. H. H. S. Rowell, Mrs. Walter Eddy; work committee, Mrs. J. L. Klapp, Mrs. G. G. Ames, Mrs. S. W. Whitford; kitchen committee, Mrs. J. B. White, Mrs. S. W. Whitford. The attendance was large and noon-day lunch was served to 45 persons. The refreshment committee for the meeting was Mrs. Walter Eddy, Mrs. H. H. S. Rowell, Mrs. R. T. McUmber,

Mrs. H. H. Smith. The refreshment committee for the next all-day meeting Feb. 13, consists of Mrs. J. W. Haben, Mrs. N. R. Lee, Mrs. L. C. Giesecker, Mrs. W. H. Bankson, Mrs. John H. Long.

The young men's class of the church was very pleasantly entertained by the teacher, Frank D. Webb, in a supper at the church, January 2. A feast of good things was had and games were played for promotion of social good feeling. The members and invited guests present included the following: Fred H. Sheets, Ralph R. Rowell, Leslie Jackson, Paul White, Jonas Grove, Clyde Sipes, Anton Lee, Campbell Kennedy, Allan Eddy, Harry H. Tondevoid, Arthur Chase, D. A. Smith, Ballard Wright, Donald Middlekauff, Harold Middlekauff, and Messrs. Nelson, Hutchinson, and F. D. Webb; Mrs. F. D. Webb, Mrs. F. B. Gano, Mrs. Walter Eddy and Mrs. J. B. White.

Home Happenings

The Orchards school resumed work January 6, following the holiday vacation.

A Christmas dinner with covers laid for seven "Badgers," all being former residents of Wisconsin, was given by Mr. and Mrs. L. A. Blackman.

The "Leisure Hour Card Club" was organized at a meeting held Dec. 27, at the home of Mr. and Mrs. L. A. Blackman. The club is made up of six couples as follows: Mr. and Mrs. L. A. Blackman, Mr. and Mrs. S. W. Whitford, Mr. and Mrs. G. E. Ames, Mr. and Mrs. F. B. Gano, Mr. and Mrs. L. C. Giesecker, Mr. and Mrs. Walter Eddy. The club will hold a series of six bi-weekly meetings, meeting usually on alternate Tuesday evenings at the home of the members, but the second meeting was held on Monday evening, January 6, at the residence of Mr. and Mrs. Whitford. The next meeting will be held January 20, unless otherwise ordered by the hostess. The ladies will play against the gentlemen, and the side making the highest aggregate score during the series will be banquetted by the other side. At any meeting, hostesses will have the privilege of adding another table. The game played is "500." The president of the club is Mrs. F. B. Gano and the secretary is S. W. Whitford.

Lewiston Orchards Life

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For the information and aid of orchard owners here and elsewhere.

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SUCCESS BY CO-OPERATION

The spirit of co-operation is now dominant in the fruit industry. In this fact lies the greatest hope for the orchardists of this region. With all the advantages of soil and climate for the production of fruit, the labor of the grower is largely nullified if he fails in its conservation and distribution.

The absolute necessity of general co-operation by the fruitgrowers of the entire Northwest has for the first time been generally recognized during the past year. The result was the remarkable and era-marking assembly of growers held Dec. 16, at Spokane, when an organization was effected that promises a solution of the great fruit-marketing problems now confronting the producers of the Northwest. With the ablest representatives of the leading fruit districts authorized to work out a plan of co-operation, success is evidently only a question of time reasonably required in the development of such a stupendous enterprise. Representing interests aggregating \$50,000,000 in value, the scheme is one of the greatest ever undertaken along co-operative lines. At the same time, the principles involved are simple and can be applied to the needs of the situation. All needed is continued confidence on the part of the growers in their own power to help themselves by working in unison.

In Lewiston Orchards, the same co-operative ideas have prevailed in the determined effort to "save the crop," by the conservation of the surplus products through a drying plant, the early establishment of which now seems assured. While the securing of the required fund through the orchards selling movement was not fully accomplished, a nucleus was formed which promises now to become the starting point of a movement that will accomplish all that was anticipated for the original plan. The move-

ment has been of great benefit in gradually winning the mutual co-operation of the orchardists and the business community in working out a solution of the fruit problems. Both communities are now united in this work and will carry it to a successful consummation.

PEARS AND WALNUTS

In the last issue of the Life, an account was given of the experience of Mr. Robert Schleicher with pears in the Lewiston valley, and in the present issue is presented an interview with Mr. Schleicher on the subject of the English walnut. The possibilities of both of these trees for orchard purposes in this district are well indicated by Mr. Schleicher, who is a pioneer fruitgrower of this vicinity.

In Lewiston Orchards, pears have thus far been used chiefly as fillers, and with satisfactory results. The trees first planted, now five and six years of age, have already borne enough fruit to indicate that pears of the highest grade can here be produced. The trees are free from disease, and it is believed that close attention will prevent the entrance here of any destructive pests or diseases peculiar to the pear tree, as elsewhere known. It is probable that pears will be given the preference to peaches for orchard fillers in the future, and that more orchards will be planted exclusively to pears. Lewiston Orchards promise to become especially famous for pears and winter apples of standard varieties.

In contrast with pears, which are comparatively rapid in development, is the English walnut, which is slower in maturing. As Mr. Schleicher has indicated, the walnut is one of the best trees for permanent orchard purposes. In Lewiston Orchards, it has thus far been almost exclusively used for shade tree purposes along the roadside. Its adaptability to conditions here indicate that its more extensive planting as an orchard tree deserves serious attention.

The production of walnuts in the United States is growing rapidly. The last census showed 916,000 walnut trees of bearing age, showing an increase of 26 per cent, while 800,000 trees, or nearly as many more were not yet of bearing age. Over 93 per cent of the bearing trees are in California, Oregon and Texas have 10,000 each and Washington and Virginia 4,000 each. Most of the others are in Alabama, Georgia, Mississippi and West Virginia. The total production of nuts in 1909 was

22,970,000 pounds, worth \$2,297,000, or ten cents a pound.

That the walnut industry has great opportunities for expansion, can be seen from the fact that the United States consumes every year more than 50,000,000 pounds of nuts, and imports of these 27,000,000 pounds, or more than half. The demand is increasing more rapidly than the supply, and the price is advancing, as nuts are becoming more recognized as of great food value. One pound of walnuts is said to be equal to eight pounds of beef steak in nutriment, and the price of a pound of nuts is not much more than that of a pound of beef.

SCIENTIFIC FRUIT GROWING

A writer in the Saturday Evening Post, in commenting on the fact shown by the census that the output of deciduous fruit has not more than held its own, and that the output of small fruits has actually decreased during the decade, despite the increase in population, very pertinently suggests that amateurish fruit-growing does not pay and is going out of vogue. It is well indicated that the unpruned, unsprayed, unplowed apple orchard may do for scenery but not for good fruit.

It is further argued that, as only fruit of first-class quality can be marketed profitably nowadays, orcharding requires something more than the setting out of trees and trusting to Nature. This writer perceives the truth that orcharding has become a scientific pursuit, and must be followed as such to insure success.

Herein lies the hope of such a district as Lewiston Orchards, where all of the most advanced methods of orchard development are being followed. The territory in which scientific orcharding is likely to be followed is limited. Beyond such limits, there will be no competition. The demand for the products of such districts is certain to be practically unlimited.

NOT TOO MANY VARIETIES

In discussing the choice of varieties of apples, F. A. Huntley, of the state horticultural commission of Washington recently declared that there are too many varieties of apples being raised in the state of Washington. "We have over fifty varieties," he said, "of commercial winter apples, and we should not have over ten varieties. This condition is caused by new growers planting the

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Pruning Young Apple Trees for Fruit

By CHAS. A. COLE, Horticulturist.

WITHIN the next few weeks the "Lewiston Orchards" growers will be in the midst of their winter pruning. In fact there are quite a few growers who are pruning at this time. While this early pruning will do no great injury to the trees, yet better results will be obtained if a shorter period elapses between the time of pruning and that of spring growth. Wounds made at this time by cutting off a branch or twig are very apt to dry out and crack. This increases the amount of surface to be covered by the healing processes of the tree, and also the chances for a pest to get a hold in the exposed tissues. This drying out can, in a measure, be prevented by carefully coating the wounds with grafting wax. Where the pruning is done just before growth starts in the spring, the cambium tissues begin the healing processes at once thereby minimizing the time required for covering the wounds. Early winter pruning should not be done except in cases where the amount to be pruned is so large that it cannot be covered in the spring months.

The object of pruning after the tree has reached an age of four years is fruit production. Up to this time we have been pruning for wood growth, which was accomplished by cutting back rather severely. This hard pruning produced a strong sturdy trunk and frame work but no fruit buds. The few buds that were left on the young tree were forced into wood growth. The next year's pruning if carried out on the same plan as the first will give the same results. By this method we may carry our trees up to an age of six or seven years without producing fruit. The tree must have old wood to produce fruit spurs. Not 12 or 15 inches of last year's growth but an abundance of it. Take for example a tree that had been pruned hard up to and including that at the end of the fourth year. The fifth year's pruning was light, a large amount of the last season's growth was allowed to remain but no fruit or very little will be produced during the sixth year. The reason is this, a branch is grown say this season, but no fruit spurs will be produced. The following season this branch will begin to set fruit spurs but no fruit. The third season will give some fruit, but even then the amount will

be governed by the variety. Such varieties as the Jonathan and Rome Beauty will produce fruit on one-year-old fruit spurs. They even do better than that, and produce some fruit on one-year-old wood. On the other hand, Spitzenburgs do not produce fruit until the spurs are at least two years old. Then if we expect to pick fruit from a six or seven-year-old tree we must begin pruning with that in view at the end of the third or fourth season's growth. Of course the third and fourth season's pruning should be more severe than the fifth and sixth.

During the third and fourth season's pruning it will be necessary to do some thinning out, especially such upright growers as the young Rome Beauty and Spitzenburg, however, we must be very careful as to the amount taken out lest too much be removed. The pruner must bear in mind that the very first heavy crop will spread these upright growers so that sunshine and air can reach the centers. Of course all branches that are rubbing must be pruned, either one or the other of them removed. The pruner will have to judge for himself as to which should remain. One mistake that is nearly always made on a young tree is to remove the small twigs that are found growing through the center. If the pruner does not cut the twig out he usually cuts back to three or four inches in which case it is just as well to remove it entirely. Twigs cut back to stubs simply put out a long wood shoot and no fruit spurs. Let these twigs alone especially if you are not sure as to the amount that should be removed. A pretty good rule to follow is to let all shoots alone that have not made over eighteen inches of growth. A shoot two feet long may be cut back three inches, if longer than two feet cut back to that length. Jonathan twigs two feet in length usually have fruit buds on the end so this variety will be an exception. When pruning the Jonathans be sure that you are not cutting off fruit buds. The tops of the trees can be thinned by removing some of the shoots that grew on the stubs left from last season's growth. To be more explicit, when three-fourths or one half of a shoot, grown last year, is removed the rule of plant growth, as applied to the fruit tree, is to put out three new

shoots from the top of the stub during the season following the pruning. Either one or two of these shoots must be removed and this will thin the tree sufficiently. Heading back one-fifth of the new growth is sufficient, and that only from the upright strong growers of over two feet in length. Taken as a whole the amount of wood removed must be very small. If it has been necessary to remove any branch of over one-half an inch in diameter the wound should be protected by coating with a wax made as follows: 4 lbs. resin, 2 lbs. bees wax, 1 lb. tallow. Melt together and apply while warm. This coating will prevent the stub drying out, and also keep out diseases.

The tools best adapted for pruning are long handled twig pruners, a good pair of hand shears, and a bracket saw, a saw the blade of which can be set at any angle.

In removing a branch be sure and make the cut close up to the body of the tree. This gives it a chance to heal over quickly. A stub wont heal over, but has to wait until the tree increases in size enough to cover it. In cutting back twigs, cut to outside buds or shoots. Don't leave a blank stub of an inch or two above a side shoot or bud. These stubs have no way of healing over. They die back to the bud, thus making an ideal place for diseases.

Mrs. Storey Buck is spending the winter in California.

In pulling his peach fillers, F. D. Webb places a heavy barrel under the log chain and gets a great leverage which enables the "one-horse" power to readily lift out the roots.

At their home on Warner Avenue and Ninth Street, the Misses Helen and Ruth Gieseke entertained a number of friends at a six-course dinner, December 29. The dinner was followed by music, singing and games, and a Christmas tree with gifts for all was an attractive feature.

Mr. and Mrs. R. G. Bailey spent the holiday season in visits to the poultry shows at Spokane and other points, in the interests of Mr. Bailey's bright publication, *Western Poultry*, the January number of which recently appeared, showing continued improvement, and reflecting much credit upon its enterprising and energetic publisher.

Second Winter Session of Lewiston-Clarkston School of Horticulture

THE Lewiston-Clarkston School of Horticulture opened its second annual session. January 6, with increased attendance and an indication of a very successful winter course. Many of the growers of the valley are enrolled as pupils and horticulturists from various parts of the Northwest are in attendance. The lectures and laboratory work are given at the Lewiston State Normal School buildings, and the field demonstration practice is done in the surrounding orchard districts.

There are lectures and recitations each morning, for five days in the week, from nine to twelve o'clock, on the general subjects of fruit-growing, nursery practice, vegetable gardening, small fruits, plant diseases, insect pests, spraying, harvesting, packing and marketing of horticultural crops. Soils are also studied and systematic pomology and landscape gardening will be treated as opportunity affords.

The faculty of the school includes: the director, W. S. Thornber, M.S., general horticulture; Chas. A. Cole, M.S.A., nursery practice, vegetable gardening and fruit marketing; Earl S. Wooster,

soil physics and chemistry; Alba Bales, domestic science; Marguerite Tyler, A. M., specialist in micro-biology and chemistry of foods; O. M. Osborne, B. S., in agriculture. The laboratory assistants include Messrs. L. G. Heitfeld, W. B. McDougall, S. F. Heitfeld, L. F. Jackson, W. D. McClintock, R. F. Hays.

The courses, all of which are optional, include: principles of fruit-growing, nursery practice, small fruits, vegetable gardening, insect pests and their treatment, plant diseases and their treatment, animal husbandry, plant pathology, soil physics, soil chemistry, domestic science, systematic pomology, landscape gardening, orchard management, harvesting, packing and marketing horticultural crops. The tuition is free to all orchardists of Lewiston-Clarkston with their families. Others pay a tuition fee of \$25. Correspondence courses are also provided, with no expense to local growers except the cost of books required.

Aside from the regular courses, popular and illustrated lectures are given by a staff of specialists from various parts of the country. The laboratory work

will include actual practice in grafting, budding, making cuttings, pruning and training trees, irrigating, laying out orchards, planting orchards, making spray, spraying and top-working. The wives and daughters of horticulturists are admitted to the course in domestic economics.

The purpose of the school is to give technical and practical training in horticulture to the orchardists of the district, in order that they may be able to develop their tracts intelligently and with profit. It is also designed to prepare skilled men to assist in practical work in the horticultural development of the district, there being a general demand for more skilled and trained men in all horticultural lines. The pupils of the school are taught to do horticultural work by actually doing it in the right way. No better opportunity can be found by a young man interested in fruit-growing for a useful, pleasant and profitable career, than that now offered by the Lewiston-Clarkston School of Horticulture, which will continue its winter session until Feb. 14.

Apples of Quality

In a letter acknowledging the receipt of a box of apples from Lewiston Orchards, Mr. D. E. Willard, development agent of the Northern Pacific Railway company, at St. Paul, under date of December 30, says:

"I wish to say that Mrs. Willard pronounced the apples the finest in quality she had ever seen. Quality in this case, I take it, covers about everything that is desired in an apple. We have enjoyed the apples very much. The only real test of quality of fruit, as I look at it, is the eating. I am able now to speak with authority regarding the quality of apples that I have tested from the Lewiston orchards."

Home Happenings

A bachelor dinner of unique character was given on Thursday evening, December 20, by Lewiston Orchards young men consisting of Messrs. David A. Smith, Fred H. Sheets, H. H. Tondevold, Ballard Wright and Paul White. There were present the same number of Lewiston's fair daughters. The interesting social affair occurred at the pretty

bachelor bungalow of David A. Smith, in the Orchards, which was attractively decorated for the occasion, and was the result of a contention following the men's dinner served in Lewiston, at the Methodist church on Thanksgiving day. An agreement was reached to have a dinner given by the young men and another by the young women, competent judges to decide on the respective merits of the culinary success attained. Miss Dewey of the domestic science department of the Lewiston public schools acted as judge and Mrs. J. B. White of the Orchards was assistant judge. The young ladies who were favored as guests were Misses Delia Whitcomb, Edna Wing, Florence Pearce, Anna Brown and Dorothy Bevis. There was a 40c a plate limit on the bill of fare, but the menu included an artistically roasted porker, a plum pudding, cream of tomato soup, fruit salad, vegetables and coffee. All was in good style, with printed menus and place cards. The evening closed with a dance. The return portion of the contest by the Lewiston girls will soon be given at the home of one of the contestants. At the bachelor dinner every portion of the cooking

and serving was done by the young men and the young women will attempt to prove their superiority in domestic art.

According to the reports of Observer W. W. Thomas, of the government weather bureau at Lewiston, last month was warmer and dryer than the average for December. The average temperature was 38, the highest being 61 and the lowest 21. The average was one-half a degree above the normal. The total precipitation was only .45 and there was one inch of snow-fall. The precipitation was the least, with one exception, in twelve years. There was more than usual of high winds, mostly of the mild "chinook" kind. The past year was cooler and wetter than the average.

Although he purchased his ten acre property about four years ago, Wm. Stanke of Portland, Oregon, paid his first visit to Lewiston Orchards for the purpose of seeing his property, December 27. Mr. Stanke was highly pleased with the situation and plans to come here for residence in 1915. His trees are now of five years growth.

Peach tree fuel is becoming popular with some orchardists.

Correspondence Course, Lewiston-Clarkston School of Horticulture

By Professor W. S. Thorner

Harvesting, Marketing and Storing of Fruit Assignment Number Three

READINGS:

Parts three and four.
Grading and Picking. The Fruit Package.
"Harvesting, Marketing and Storing" by Waugh.

STUDY THE FOLLOWING FACTORS:

1. The best number of grades for the West.
2. The methods of filling the package.
3. The type of the package best adapted to our use.
4. A system of attractive labels.

GENERAL FRUIT GROWING. Assignment Number Three.

READINGS:

Chapters Seven and Eight, "How to Make A Fruit Garden."
Chapters Three and Four, "Principles of Fruit Growing."

STUDY THE FOLLOWING FACTORS:

1. The physical effects of tillage.
2. How tillage affects soil moisture.
3. The chemical effects of tillage.
4. The effects of mulches, both sod and dust.
5. The inter-cropping of orchards.
6. The building up of orchard soils.
7. The growing of green manure and cover crops.
8. The use of commercial fertilizers.
9. The kind of tools used for cultivating an orchard.

NOT TOO MANY VARIETIES (Continued from page 3)

variety of apple which grew best for them in other parts of the country, without taking into consideration the fact that the growing conditions are totally different."

In pleasing contrast with this excess of varieties that prevails in many portions of the Northwest is the system of orchard planting in Lewiston Orchards, where apples for commercial purposes are chiefly confined to five leading varieties which have been found best adapted to conditions of this district. This limitation has been the subject of much favorable comment on the part of some of the most intelligent observers of commercial orchard conditions, and gives promise of doing much for the insurance of future orchard success for these orchards.

OUR BEAUTIFUL WINTER

Orchard residents who are here for their first season are agreeably surprised at the mildness and beauty of the winter season. Most of them have been ac-

SOILS. Assignment Number Three

READINGS:

Chapters 1, 2, 3, 4, 5 from "Soils" by Hilgard.

STUDY CAREFULLY THE FOLLOWING:

1. Agencies of soil formation.
 - a. Physical, temperature, water, wind, etc.
 - b. Chemical vegetation, moisture, etc.
2. Rocks contributing to the formation of soils.
3. The minerals that become plant foods.
4. What is the difference between the formation of clay soils and sandy soils?
5. What agencies must have played an important part in the formation of the soils of this country?

VEGETABLE GARDENING: Assignment Number Three.

READINGS:

Read Chapters 8 and 9, "Principles of Vegetable Gardening."

Study,—Beets, carrots, horse radish, parsnips, radishes, salsify, turnips and chervil in "Vegetable Gardening" by Green.

STUDY THE FOLLOWING FACTORS:

1. Classification of crops into groups.
2. Wide range of literature upon the subject.
3. Root crops adapted to inter-orchard crop price.
 - a. Carrots.
 1. For stock.
 2. For table use.
 - b. Rutabagas and turnips.
 - c. Beets and mangels.
4. The horse radish as a crop.

Carrots in this valley last year produced from 20 to 40 tons of roots per acre and sold at from \$8 to \$10 per ton.

LANDSCAPE GARDENING. Assignment Number Three.

READINGS:

Chapters 16, "Landscape Gardening" by Waugh.

Chapters 10 and 11. "Landscape Gardening as applied to Home Decorations."

STUDY THE FOLLOWING TREES:

1. Norway Maple, English Maple, Sycamore Maple, Flowering Ash, Scotch Elm, English Oak, Scarlet Oak, European Linden, English and Black Walnut, Horse Chestnut, European Larch and Black Locust
2. Colorado Blue Spruce, Norway Spruce, Englemann's Spruce, White Fir, Douglas Fir, Western White Pine, Austrian Pine, Irish Juniper.
3. Cut-leaved weeping Birch, Purple Beech, Japanese Chestnut, Russian Wild Olive.

ORCHARD PESTS.

Assignment Number Three.

Chapter Six, "Economic Entomology."
Pages 116 to 194, "Diseases of Economic Plants."

STUDY CLOSELY THE FOLLOWING:

1. The wire worm.
2. The Flat head apple borer.
3. Colorado potato beetle.
4. Peach leaf curl.
5. Raspberry cane blight.
6. The mildews in general.

IRRIGATION.

Assignment Number Three.

READINGS:

Chapter 15, "Irrigation Farming" by Wilcox.

Chapters 9, 15, 16 and 17 "Irrigation for the Farm, Garden and Orchard" by Stewart.

STUDY THE FOLLOWING FACTORS:

1. Different methods of seeding land.
2. Methods of preventing the rise of alkali.
3. The use of contour flumes rather than such extensive grading.

customed to periods of blizzards and below zero temperatures during a greater part of the winter months. In Lewiston Orchards, there has been no cessation of out-door employments. Orchardists have been occupied in plowing, planting of trees and other work in anticipation of the spring season.

The close of December found the ground free from frost. On New Year's day, the lowest temperature was only two degrees below freezing and there was no snow on the ground. It is true that January may bring some snow and lower temperatures, but the experience of the past gives assurance that this can be of but temporary and brief duration, perhaps extending over a period of one or two weeks. Some orchardists postponed until this month the covering of tender plants and even this tardy precaution seems almost unnecessary.

The surrounding mountains have been more or less snow-clad since the middle of October, indicating lower temperatures at the higher altitudes, but the

Lewiston valley forms an oasis of almost semi-tropical verdure in this portion of the Northwest. The beautiful winter weather is one of the delights of residence in Lewiston Orchards.

The Spitzenburg, a Standard December and January Apple

(Continued from page 1)

always be a good market for nice, clean, first class Spitzenburgs.

In contrast with this beautiful variety of late apple is the Winter Banana which is a general favorite for holiday use. However, it is more tender and will not so easily withstand long distance shipment. The Winter Banana is of large size with clear yellow coloring which shades into a delicate blush as the ripening progresses and makes a very attractive appearance as a table fruit. It has a delightful aroma which suggests the banana flavor. The tree grows rapidly, bears early and annually and is bound to continue in popularity.

A Horticultural Museum for the Lewiston-Clarkston Valley

INCIDENTAL to the scientific horticultural development of this district in particular and of the Lewiston-Clarkston region in general, there has been established a horticultural museum, of valuable and instructive interest, in the study of orchard pests. At present, this is located in the office of the Lewiston Land & Water Company, but it promises soon to outgrow its quarters, and to demand a permanent and sufficiently commodious place for its considerable expansion. In connection with the Lewiston-Clarkston School of Horticulture, the museum is calculated to play an important part in the promotion of practical horticultural education.

The specimens are enclosed in cases made especially for that purpose, and 31 of these have already been filled, while more material is in preparation. This collection will be added to from time to time, until it contains specimens of all orchard and garden pests found in this valley.

A Natural Cover Crop

At this season of the year much interest is manifested in "Fillaree," the natural cover crop in Lewiston Orchards.

Visitors from California, Mexico and Europe call it "El Filiria." This pretty plant was first introduced from Europe where it is known as pin grass or pin clover and naturalized in California.

In this section it serves as a very satisfactory forage for the ruminants, more especially of the sheep and deer families. In the Lewiston district the vegetation might properly be termed an indigenous crop for it springs up in the fall after cultivation is over, covers the ground thickly as a mat, grows close to the earth even at freezing temperature and presents a very beautiful appearance. The process of spring plowing turns it under where it serves a valuable purpose as a fertilizer.

The proper name is "Alfilerilla" but as the final "ll's" are silent, the popular pronunciation is not affected.

A recent visitor from the East who owns an orchard in another great district has written,

"Please let me know where I can secure some of that 'El Filiria' seed as I would like to sow it in my orchard here."

An owner residing in Lewiston recently said: "What have you sown in

The specimens are framed under glass, all carefully labeled, with indication of character of operation and instruction as to the best methods of combatting them. Following are some of the labels shown: "Pear Blight," "The Work of the Disk Cutting Wasp," "The Work of the Careless Driver," "Grain Rust and Smut on Wheat Grass," "Wheat Smut," "Black Knot of the Plum," "Shot-Hole Fungi on Old Trunk of Peach Tree," "Apple Rosette, Winter Injury, Little Leaf or Dessication," "San Jose Scale on Fruit and Leaves of Pear," "Cherry Gumosis," "Work of the Gopher and Ground Squirrel," "The Work of the Black Aphis of the Cherry," "Shot-Hole Fungi on Bing Cherry Leaves," "The Work of the Cherry and Pear Slug," and "Strawberry Leaf Spot."

Among the most interesting specimens are those of the pear blight and what is known as the disk-cutting wasp. The contents of the pear blight cases are made up of twigs and portions of branches showing the work of the dis-

ease, one case showing the winter stage very nicely. The twigs indicate where the blight has worked during the summer. The junction of the diseased wood and that of the healthy portion is very marked. It is here that the disease lives over until the next season. The second blight case contains specimens showing the summer stages of the disease. The blackened foliage, twigs and fruit bear evidences of its rapid work. In each case the remedy is indicated.

The case illustrating the work of the disk-cutting wasp, contains leaves from the infested trees. The round, even-cut holes mark this insect as being of a very exact mechanical habit. This pest is given as not being bad, except in neglected orchards.

Any one interested in fruit growing can spend very profitably an hour or two in the study of this interesting collection, which has been prepared by Professors W. S. Thornber and Chas. A. Cole of the Lewiston-Clarkston School of Horticulture.

my orchard. It is just as pretty as a lawn. I didn't know that you seeded them down each fall. That is fine." It is beautiful and profitable as well.

Alfileri(II) a being native to certain localities such as the Lewiston district, would probably not thrive so well under less favorable conditions.

Lewiston Orchards Association

The annual meeting of the Lewiston Orchards Association will be held Jan. 14, at the church, when reports will be made by the board of directors and a new board will be chosen for the ensuing year.

Since the relinquishment of the orchards selling plan for the establishment of a fruit-drying plant by the association, a new plan has been started in which the association and the Lewiston Commercial club are co-operating. In connection with this there will be utilized, as a nucleus, funds already pledged through the sale of orchard lands, a number of purchasers agreeing to retain their tracts though allowed the option of cancelling their contracts. In this way, from \$3,000 to \$3,500 will be made available. In addition to this enough additional capital will be raised in other ways to provide for a first-class dryer plant. The details of the methods to be

followed in this movement will be given later. Suffice it to say, there is entire confidence on the part of those engaged in the work that the movement will be successful.

At the packing house, the packing of apples was completed last month, and up to this month about one-half of them had been sold. When colder weather arrived, January 5, the packed apples were removed to the basement of the packing house, where they can be kept in excellent condition until disposed of. Those remaining on hand are chiefly of the Rome Beauty variety, an excellent winter apple, good keeper and shipper.

A baby girl was added to the family of H. A. Canter, the Lewiston Orchards merchant, December 29.

Reed Klapp, a merchant of St. Maries, Idaho, made a New Year's visit to his parents, Mr. and Mrs. J. L. Klapp, in the Orchards.

About twenty of the little folks from the North Idaho Children's Home were entertained by Mr. and Mrs. H. L. Powers on Christmas afternoon.

R. A. Bonnell, assistant in charge of construction of new Clearwater bridge, quit work long enough the other day, to pull a drowning boatman from the icy waters.

The English Walnut a Profitable Orchard Investment

AN earnest advocate of English walnut growing in Lewiston Orchards and elsewhere in this vicinity, is Robert Schleicher, who states that he intends to plant twelve to fifteen acres of the English walnut, the coming spring, at his place on the Clearwater river, near Lewiston.

"My only regret is," said Mr. Schleicher, "that I didn't do it twenty years ago."

In 1885, Mr. Schleicher planted ten walnut trees, which are still growing, and are now thirty feet high. These

are seedlings, which Mr. Schleicher has improved by selection, and a test shows that in relation of shell to kernel they are a little ahead of the Franquette. He has since planted some of the Franquette and Mayette. Mr. Schleicher has planted seedlings and bred from them and finds them superior to the Franquette and Mayette.

"A walnut orchard has an established value," declares Mr. Schleicher, "after a certain number of years, and has some advantages not possessed by others. There is no limit to the age of a walnut orchard, it is not troubled with orchard

insects, needs no spraying, requires comparatively little labor for development, needs no machinery for harvesting, as boys can pick the nuts from the ground and the nuts keep well and find a ready market, at good prices. In California, the walnut orchards pay a profit of \$1,000 an acre. They usually pay a profit after ten years of age. Some of the best trees average 250 pounds of nuts to the tree. They should be planted 45 feet apart and can be started as fillers. Those along the streets in Lewiston Orchards will bear watching for promising new seedlings."

Nature Gems by Burroughs

The distinguished author and nature student, John Burroughs, was recently the recipient of a box of apples from Lewiston Orchards, and responded from his home at West Park, N. Y., under date of December 9, as follows:

"The box of apples from your Lewiston Orchards, which you so kindly sent me, has reached me in fine condition. So fine a box of apples I never before saw, and the quality of the fruit is equal to its good looks. The Winesap is new to me and proves to be the favorite with my family. The Newtown Pippin is a marvel of size and beauty and the Spitzenburg make the Spitzenburg of my boyhood seem like a dwarf. Good luck to your great enterprise. I am glad my publishers have given you permission to make use of some of my essays. I wish they were equal in beauty and quality to your apples."

The Life has secured the privilege of publishing from time to time, some of the characteristic essays of the great American naturalist, John Burroughs. The following appears in the volume entitled "Winter":

THE APPLE

Not a little of the sunshine of our Northern winters is surely wrapped up in the apple. How could we winter over without it! How is life sweetened by its mild acids! A cellar well filled with apples is more valuable than a chamber filled with flax and wool. So much sound, ruddy life to draw upon, to strike one's roots down into as it were.

Especially to those whose soil of life is inclined to be a little clayey and heavy, is the apple a winter necessity. It is the natural antidote of most of the ills the flesh is heir to. Full of vegetable acids

and aromatics, qualities which act as refrigerants and antiseptics, what an enemy is it to jaundice, indigestion, torpidity of liver, etc. It is a gentle spur and tonic to the whole biliary system. Then I have read that it has been found by analysis to contain more phosphorus than any other vegetable. This makes it the proper food of the scholar and the sedentary man; it feeds his brain and it stimulates his liver. Neither is this all. Besides its hygienic properties, the apple is full of sugar and mucilage, which makes it highly nutritious. It is said "the operators of Cornwall, England, consider ripe apples nearly as nourishing as bread and far more so than potatoes. In the year 1801, which was a year of much scarcity, apples instead of being converted into cider, were sold to the poor, and the laborers asserted that they could 'stand their work' on baked apples without meat; whereas a potato diet required either meat or some other substantial nutriment. The French and Germans use apples extensively; so do the inhabitants of all European nations. The laborers depend upon them as an article of food, and frequently make a dinner of sliced apples as bread."

Yet the English apple is a tame and insipid affair, compared with the intense sun-colored and sun-steeped fruit our orchards yield. The English have no sweet apple, I am told, the saccharine element apparently being less abundant in vegetable nature in that sour and chilly climate than in our own.

It is well known that the European maple yields no sugar, while both our birch and hickory have sweet in their veins. Perhaps this fact accounts for our excessive love of sweets which may be said to be a national trait.

The Russian apple has a lovely complexion, smooth and transparent, but the Cossack is not yet all eliminated from it. The only one I have seen—The Duchess of Oldenburg—is as beautiful as a Tartar Princess, with a distracting odor, but it is the least bit puckery to the taste.

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State Senator J. L. Goodnight has left for Boise to attend the winter session of the Legislature.

L. L. Williams of Spokane, reached Lewiston the last of December to attend the Horticultural school.

Orchardists who have heard of the Racine, Wis., man who won a wager by eating a barrel of apples in one week, incidentally gaining 17 pounds in weight, as well as winning \$50, think that the marketing interests of the district might be promoted by getting in touch with some such consumers.

The Lewiston Orchards auxiliary to the advisory board of St. Joseph's Hospital will hold its next meeting and annual election of officers Jan. 16, at the home of Mr. and Mrs. J. W. Haben. A full attendance of members is requested. At the recent hospital bazar in Lewiston, the sale of the articles supplied by the auxiliary netted about \$110.

A Kansas City woman who received a sample of Winter Banana apples from Lewiston Orchards writes as follows: "The three apples by mail were received in good condition. We all think they are beauties and I will show them to friends. You have no doubt heard from L., as to the box of those wonderful apples. They are keeping fine. What an ad. for the Orchard tracts."