

WILLAMETTE FARMER

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NO. 39.

Correspondence.

Tualatan Grange Fair.

New Era, Or., Oct. 31, 1882.

Editor Willamette Farmer:
I thought it would not be amiss to send you an account of a pleasant time we had at the Tualatan Grange on Oct. 28, 1882. We had appointed that time to carry in samples of our products in the agricultural line, and with the assistance of some of the members of the Oswego Grange, we had a display of things that we, at least, felt proud of. Though nothing was taken in the way of products but what was hastily picked out of the common crop, parties who had been in attendance to the State and Mechanics' Fair declared ours to rank higher, everything considered, than at either of those places. In but few instances was the exhibit there only a fair representation of the common crop, and the extra large specimens were all taken from the fields, they happening to grow in favored spots, without any extra thought or care from the producer. I will send a list of some of the things there on exhibition. Though the day was quite stormy we had a good turn out, and with a good dinner and short speeches everybody appeared to enjoy themselves.

THOMAS BUCKMAN, Secretary.

LIST OF ARTICLES ON EXHIBITION:

- J. Ranger, 2 varieties potatoes, 1 rutabagas, 1 peas.
- T. Turner, 2 variety of oats, 1 fava wheat, 1 corn.
- Mrs. N. E. Turner, 1 variety of bread, 1 blackberry jam, 1 quince preserves, 1 Wandering Jew plant.
- Albert Turner, 1 variety of beets.
- James Turner, one squash.
- Lizzie Turner, 1 wreath of paper flowers, 2 shell flowers, 2 tidies.
- John Kruse, 2 varieties of potatoes, 4 of apples, 1 winter wheat.
- Mrs. J. Kruse, 4 varieties of cake, 1 bread, 1 pickle yeast, 1 pickles, 1 jelly, 1 browned coffee, 4 boxes flowers.
- Louisa Kruse, 2 mottoes, 2 boxes plants, 1 skirt.
- Anna Kruse, 2 paintings, 1 toilet set, 1 skirt.
- Homer Kruse, 2 drawings.
- J. L. Kruse, 1 variety of apples, 1 of pears.
- Mrs. Anna Barnes, 1 cake, 2 quilts, 1 pair gloves.
- Ola Barnes, 1 lamp mat.
- T. Buckman, 3 varieties of corn, 1 potatoes, 2 of pears, 1 of parsnips.
- Mrs. C. Buckman, one box of varieties, 1 box of petrified woods, 1 stone mortar, butter, pickled pears, honey, walnuts.
- S. H. Carter, 10 varieties of apples, 3 of pears, 1 of peaches.
- Mrs. L. A. Carter, white silk wreath, 2 quilts.
- Mrs. Lydia Buckman, Silver spoon 150 years old.
- Mrs. S. Henry, 3 varieties of jelly, 3 of canned fruit, bread, vinegar, marmalade, stocking bags, cornucopia.
- Lucy Henry, cornucopia, card basket.
- G. A. Henry, 4 varieties of beans, pumpkin, pop corn.
- Mrs. J. Whitmore, chart for cutting ladies' dresses.
- J. H. Whitmore, gourds.
- H. E. Hayes, 12 varieties of dried plums, 1 of apples.
- Alice Hayes, 2 varieties of apples.
- Mrs. C. E. Shipley, afghan, patchwork, Kensington embroidery, pictures, pressed flowers, bracket, shells, seeds, etc., sampler made in 1838, toilet bottles, cones, geological specimens, moss sages.
- Lenzie A. Shipley, wall pocket, watch pocket.
- Randolph Shipley, Norwegian spoon.
- Mrs. Sinara Martin, quince jelly, crab apple jelly.
- A. R. Shipley, 6 varieties of grapes 7 of potatoes, 2 of peas, 4 of apples, sorghum sugar.
- John Adin, corn stalk sugar carrots.
- Mrs. Graham, quince.

Oregon Bee Keepers Convention.

OREGON CITY, Oct. 25, 1882.

Editor Willamette Farmer:
Quite a number of persons interested in bee culture met together in Oregon City for the purpose of organizing a society or organization to promote and encourage the keeping of bees. An organization was effected, constitution and by-laws adopted, and the following officers elected for the ensuing year: Dr. J. W. Morris, President; A. Warner, Vice President; E. E. Charman, Secretary; A. F. Miller, Treasurer; J. D. Rusk, of Clatskanie, M. V. Enaley, of Yamhill and T. L. Riggs, of Multnomah, Executive Committee.
The first regular annual meeting will be held Wednesday, November 22, 1882, at 10 o'clock

at Oregon City.
The following constitution and by-laws were adopted:

CONSTITUTION.

Article I—This Association shall be known as the Oregon Bee Keepers Association.
Art. II—The object of this Association shall be the promotion of scientific bee-culture, by forming a strong bond of union among bee-keepers, laying aside all conflicting interests, let all subjects for discussion be brought before the convention at the proper time.
Art. III—The officers of this Association shall consist of a President, Vice-President, Secretary and Treasurer, whose duties shall be those usually assigned to such officers, and their term of office shall be one year, or until their successors shall be elected.
Art. IV—By signing this constitution and paying the Treasurer the sum of fifty cents, annually, any member may become a member of this Association.
Art. V—Ladies interested in bee-culture may become members by signing this constitution.
Art. VI—The regular meeting of this Association shall be held at such time and place as shall be agreed upon at any previous annual meeting.
Art. VII—Special meeting may be called by the President.
Art. VIII—The officers of the Association shall constitute a committee to select subjects for discussion and appoint members to deliver addresses and read essays, and the same shall be published with the call for the next annual meeting.
Art. IX—This constitution may be amended by a two-thirds vote at any regular meeting.
Art. X—An executive committee consisting of three members shall be elected at each annual meeting.
BY-LAWS.
Article I—The officers of this association shall be elected by ballot.
Art. II—It shall be the duty of the President to call and preserve order in all meetings of the Association; to call for all reports of officers and standing committees; to put to vote all motions regularly seconded; to decide upon all questions of order, according to the constitution and by-laws of the Association, and in accordance with parliamentary usage; to count the votes at all elections, to supply all vacancies in office; and at the expiration of his office, to deliver an address before the Association.
Art. III—It is the duty of the Vice-President, in the absence of the President, to perform the duties of that office.
Art. IV—It shall be the duty of the Secretary to call the names of all the acting members of the Association at the opening of each regular meeting, and to mark all delinquents; to report all proceedings of the Association, and record the same, when approved, in the Secretary's book of the Association; to conduct all correspondence of the Association, and to file and preserve all papers belonging to the same; to take and record the name and address of every person who becomes a member of the Association, and transfer the moneys received for initiations to the Treasurer, after taking his receipt for the same; and to give notice of all regular meetings of the Association, in agricultural papers, which are available in the district covered by this Association, and in the bee papers, at least four weeks before the time of meeting.
Art. V—It shall be the duty of the Treasurer to receive from the Secretary the funds of the Association, and give his receipt for the same; to pay them out upon the order of the executive committee, and to render a written report of all receipts and expenditures of the Association at each regular meeting.
Art. VI—The Association shall be governed in the main by the following order of business:
Call to Order.
Calling the Roll.
Secretary's Report.
Treasurer's Report.
Report of Standing Committees.
President's Address.
Receiving of Members.
Election of Officers.
Miscellaneous Business.
Discussion.
Adjournment.
Art. VII—The executive committee of this Association shall cause the constitution and by-laws to be printed in appropriate form, and every person joining the Association shall be entitled to a copy of the same.
Art. VIII—These by-laws may be amended by a two-thirds vote of all the members present at any regular meeting of the Association.
Letter from Walla Walla, W. T.
WALLA WALLA, Oct. 22, 1882.
Editor Willamette Farmer:
I have thought to drop a few lines, thinking I might help to make your valuable paper in-

teresting to our many farmer readers. By the way a great many more should have it on their center table than now do. I am a wheat farmer, and have been more or less since 1863 in this valley. One fault with our putting in grain is this, we plow and sow all right; but, when it comes to harrowing, one of the most effective implements we have in use, we stop before we are half done. There is nothing pays so well as thorough harrowing. My experience is like the lager beer man. Too much is shut enough. I would say, harrow, harrow, harrow, and when you have harrowed for the last time, tell John to go and harrow again.

Summer-fallow grain is largely sown in the Dry-Creek region of our valley. Weather is charming; farmers are rushing things. The temptation of good, reasonable weather is so great that some fields intended for fallow next spring are being turned up for another crop, i. e., what we call a stubble crop.
We raise considerable crops of corn in this immediate neighborhood, and find it a splendid substitute for regular summer-fallowing. It furnishes us luxurious horse and cow feed during our dry fall weather; saves feeding our small grains which we can sell for cash, and goes far in solving the problem of successfully making the farm pay. I wish to furnish a small compensation for the many useful and instructive hints, which I gain from the articles contributed by farmers; even if they are not as concise and grammatically gotten up as some might do, who are professional compositors?
Respectfully, yours,
MILT EVANS.

STOCK OF PIGS AND BEES WANTED.

SPokane Falls, W. T., Oct. 27, 1882.

Editor Willamette Farmer:
Please inform me from whom I can purchase pure Italian bees and the best stock of hogs in Oregon. By giving me the addresses of some of your leading and hog raisers, you will very much oblige.
Yours truly,
FRANCIS A. COOK.

REMARKS.—Such questions as these are continually being asked of us, and we trust those who have fancy stock for sale will make it known. A small card in our breeder's directory will pay any order, and at the same time is cheap.

Weather Report for October, 1882.

During October, 1882, there were 17 days during which rain fell, and an aggregate of 7.61 inches of water; 4 clear days, 10 cloudy days other than those on which rain fell. The mean temperature for the month was 48.61 deg.
Highest daily mean temperature for the month, 53 deg. on the 4th, 6th, 7th and 7th.
Lowest daily mean temperature, 40 deg. on the 30th.
Mean temperature for the month at 2 o'clock P. M., 54.03 deg.
Highest temperature for the month, 59 deg. at 2 P. M. on the 2d.
Lowest temperature, 33 deg. at 7 A. M. on the 30th.
No frost yet in this immediate vicinity.
The prevailing winds for the month were from the southwest during 23 days, north 8 During October, 1881, there were 18 days during which rain fell, and 5.92 inches of water; 6 clear days and 7 cloudy days.
Mean temperature for the month, 47.42 deg.
Highest daily mean temperature for the month, 54 deg. on the 18th.
Lowest daily mean temperature for the month, 35 deg. on the 13th.
T. PEARCE.

IN MEMORIAM.

SALEM, Or., Nov. 6, 1882.

Editor Willamette Farmer:
The following resolutions were unanimously adopted by Marion County Pomona Grange at a meeting held on the 2d inst.:
WHEREAS death has borne from our number our worthy Sister Malinda E. Glenn, we bow in grief to the chastening rod of our Father in this summoning from our fraternal circle so faithful a member of our Order, therefore
Resolved, That this grange has lost one of its most efficient members, the community a valued friend, the husband a fond wife, the children an affectionate mother.
Resolved, That we hereby tender to our bereaved brother and family our heartfelt sympathy.
Resolved, That these resolutions be recorded with the proceedings of the grange, that copies be furnished the Statesman, Disseminator and WILLAMETTE FARMER for publication; also, that the family of the deceased be furnished with a copy.
J. L. HILLEARY,
J. M. KINSEY,
E. A. DOLBE, Committee.

AGRICULTURAL CHEMISTRY.

The following excellent essay was read before a recent meeting of Farmington Grange No. 110, at Hillsboro, Washington county, by Thomas Withycombe, Sr., and is recommended to our readers as an able and comprehensive thesis on the above topic.

WORTHY MASTER: Our inquiry to-day will be Agricultural Chemistry. First, we will take a thing that is going on nearly every day around us. For instance, if you take any vegetable, say wheat, wheat straw or hay, or any other material of that kind, and burn it, you send back into the air the material which the plant originally derived from the air, and there remain behind in the form of ashes the materials which the plants, by its roots, derived from the soil; so that we have a general division of the constituents of any vegetable body into two varieties, namely, those materials derived from the air, and which may be called atmospheric or organic elements, and those derived from the earth, which may be called mineral or earthy elements. The terms mineral and organic may be thus explained: If a plant is burnt, the ashes represent the mineral matter taken from the soil, while the part consumed is the organic matter taken from the atmosphere. If we examine the materials that are driven off by red heat from any plant whatever, we find them to consist of four elements, carbon, oxygen, hydrogen and nitrogen. I particularly wish you to remember these names, as I shall speak of them separately, showing some of their primitive combinations with each other. The combinations of these four elements are capable of forming an infinite. Carbon you will find almost pure in charcoal, animal fat and oils. This is a most important element, and is obtained from the air. Take, for instance, the mill from Mr. Lewis to Mr. Engleton's; see the timber on the north side, where the rocks could retain a little moisture, the enormous amount of carbon per acre if it were converted into charcoal. It could not come from the soil, for it is nothing but rock; yet that land is richer now than before these trees grew there. If you burn charcoal in an open fire, it combines with oxygen and passes off in carbonic acid gas. Now, every animal that breathes, every fire that burns, and every fermenting pile is throwing off this carbonic acid into the air, which is one of the most deadly poisons animals can take into their lungs. Carbonic acid is often found in the bottoms of disused wells, many men having sacrificed their lives in consequence.
Oxygen is the most vital of all other elements. We could not breathe without it, neither could fire burn. It combines with the metals we use in our implements, which causes them to rust; it also composes nine tenths of water.
Hydrogen is found in common coal gas, such as is burnt in street lamps; it is also used to inflate balloons, being the lightest gas known: water contains one tenth of this gas. Plants have the power of decomposing water, sending off the oxygen and retaining the hydrogen.
Nitrogen is the basis of all animal muscle, and is found in large quantities in all seeds of plants; it unites with hydrogen and forms ammonia. You can detect it in close stables. Ladies smelling bottles contain pure ammonia; smoke from open fires also contains a large percentage of ammonia. If the land contains a little lime it has the power of absorbing this ammonia from the air and rains, and fixing it in the soil as nitrates; the quantities of ammonia brought to the soil in this way every year, according to analytical chemists, would astonish you. This is one great cause of a little lime plaster having such effect on clover; the lime fixes the ammonia. I would recommend any one making a good summer-fallow to buy a little plaster early in summer and stir it up with the land all summer. We are all apt to look upon saltpetre rather as a means of blowing people's heads and bodies awnder than under any other aspect, but we must not forget that it is, in fact, one of the main articles of the farmer's productions. When England and France were at war in 1798, England cut off the supply of saltpetre from the East Indies. All the saltpetre used by Napoleon was made from the mortar or lime from old houses, bottoms of cow and horse stables, and other places where urine had penetrated. The way in which saltpetre heaps were made may be very briefly described: A layer of lime was put on the ground, on that layer was put horse manure, straw, animal matter, such as horse flesh, or any similar material. This heap was kept under cover, so as not to allow too large a quantity of water to fall upon it. It was kept moist by being watered with urine; when urine could not be procured water alone was used in like manner. In fifteen or eighteen months the whole of the nitrogen and

ammonia had united with oxygen and had become converted into nitric acid.

The reason I have alluded to this subject is to show that summer fallowing is nothing more or less than manuring from the air. When you fallow the land, do you not expose the land by repeated turning to the action of the air? Do you not allow it to absorb what it can from the air? Do you not suffer it to lie in a porous state and afford it all proper opportunities of acting upon the air? The consequence is that by fallowing you cause the porous body of the soil to act upon the air, and there is absorbed a considerable portion of ammonia, nitric acid, carbonic acid and other materials essential to the growth of plants; it is, in fact, a system of manuring from the air.

Now let me here point out that without drainage we are laboring under a great disadvantage, either to fallow or plow. What is the use of drainage, if a soil act by means of porosity upon the air, as I have told you? It does, of course, when its pores are filled with water, as no such action can take place; therefore it should be a first principle with all farmers that the soil should either be naturally sufficiently porous for the water to descend and the air to enter, or that it shall be brought to that state artificially, that is, by proper draining. Whatever I may have to say, therefore, applies to land which is in such a state of porosity that air and water can enter, so as to have their decided proper action upon the soil. This leads me to notice Jethro Fall's plan. Jethro Fall was the first to introduce the drill husbandry in Europe. He had a notion that by pulverizing the soil to a very great extent he could make it sufficiently fine to pass through the pores of the roots and enter the plants, and that thus he could effectually provide against the want of nature. Now, although he had got hold of a bad theory, his practice was, to a great extent, sound, as was proved by his producing wheat in this way after year for a considerable period. Through the constant stirring, there has been a powerful absorption of materials from the air, nitre beds have been formed, and the result produced is the same as if you had manured by the wagon load. I have mentioned this case as I want you to understand that manure comes from the air on the one side and the earth on the other, and that a proper working of the land and a proper exposure of it to the air, for the invisible active ingredients of the air are absorbed by the soil to be made use of by the plants. I now wish to call your attention to the advantages of a rotation of crops. Experience has shown that the same crop cultivated on the same soil, through successive years, deteriorates, and will finally cease to yield profitably; that certain plants will thrive better after others, and that those last will then again become productive; it is proved that plants excrete from the roots; hence the opinion that the same plant will not thrive in a soil, where its excretions accumulate; nature itself teaches the lesson, when you slash and burn over your fir land the consequence is, you get a growth of another plant—oak generally succeeds fir. Now the first thing for us to study is, how we can alternate our crops to the best advantage, the plants most usually used for agricultural purposes are divided into four families; cereals, embraces the narrow leaved, such as all grain and many of the grasses; next comes the brassica family or broad leaved, such as cabbage, turnips, rape and beets. Leguminous includes the pea and tare family; trefoil the clover family or plants producing three leaves. The cereal family is the one you are most acquainted with; nature never intended this family should obtain much food direct from the atmosphere, having smooth narrow leaves, therefore they must obtain their plant food from the soil. You would naturally say that plants with large leaves, such as the brassica, would draw more from the air than plants with narrow leaves and small foliage; take a crop of rape, for instance, it sends out large, broad leaves, and when a nice breeze passes over them, and the sun shines upon them, then there is a very great absorption of material from the air, which the plant eventually puts into roots for the purpose of producing seed; this is the simple purpose of the rape; this material collected in the roots for the production of seed containing large quantities of nitrogen, is plowed in the soil, gradually decomposes; the wheat is then sown; it has narrow leaves, and it could not absorb more from the air than would produce perhaps 10 or 15 bushels per acre, but by the use of rape previously which is better than fallowing, because you have a vital agency, in addition, which the wheat lays hold of, there is a great increase of crop. Take red clover now—what does the clover do?—every little leaflet, which it shoots up into the air, sends a rootlet downwards, so that it exerts proper-

tion to the upward growth of the clover is the downward growth of the root; and when you have taken the clover away you retain in the soil several tons-per acre of valuable vegetable matter, which, by its slow decomposition, affords nutriment for the narrow leaved wheat. I will right here give you my own practical experience; for many years in England my system of farming was the five course; therefore, every fifth of my land was sowed down every year, part of which was cut for hay and the other part pastured. I always had an idea that the pasturing with sheep would improve the land more than cutting a heavy crop of hay; but from practice, I am convinced you benefit your land most by two cuttings of hay—one at midsummer, just after the bloom makes its appearance, and again in the fall before it begins to mature its seeds, if you intend clover as a renovating crop, it should never be pastured for reasons previously explained.

ROLLING MILL AT OSWEGO.

It seems that private capital, to a very large amount, is interested at the present time in developing the iron interests of our State. As a commencement, a purchase has been made of the property at Oswego, eight miles from Port and, where a smelting furnace has been in operation for some years. Land to the extent of 50,000 acres in all has been acquired, giving the company control of vast beds of iron, timberland, and water privileges. The estate is immense in extent and the enterprise will be pushed with all the force great capital can impart. The intention is to not only manufacture pig iron from the ore, but to establish rolling mills capable of turning off immense quantities of material. Such works as this will initiate a business that must grow to vast proportions. Our mines must sometime be improved and the sooner the better. If we can satisfy the great demand for railroad iron that will hereafter exist on this side of the continent, by home manufacture, that will be a grand commencement for the manufacture of iron. It is in such respects that this portion of the Pacific Coast can and must excel the development of these natural resources will bring permanent prosperity and immense wealth, as it does in other States.

One great advantage of the Oswego location is that ships can load there as easily as at Portland. The ore beds have been traced nine miles; the metal is of superior quality, equal to best Norway iron; the ore is so easily got that iron can be made under most favorable circumstances, water power being abundant for the rolling mills. For years past the Central Pacific railroad has had its car wheels made of Oswego iron, because of its superior toughness and general good quality, for it is said to be superior to any ore hitherto found in North America. If a company had operated these mines with sufficient capital heretofore, no doubt great success would have followed. As it is, the iron has been shipped abroad in bars or pigs, and used at home for making stoves, and by our foundries and machine shops to such good advantage that they have acquired a reputation for doing better work than San Francisco shops, the iron being of better quality than the imported iron, or iron from California mines, used in that city. The ore deposit extends through the range of hills back of Portland, and crops out again near the Columbia river near St. Helens.

The company that incorporates with S. G. Reed as President, has a nominal capital of \$3,000,000 and should the business prosper with good management no doubt unlimited capital will stand ready to take hold of it. The result of possessing iron, coal, forests and limestone, all of which are necessary for the manufacture of iron, can hardly be appreciated by common minds. We may live to see the greatest industries known to man thrive and build up immense shops and factories close by us, employing large forces of laborers to be fed from on fields and gardens and generally to benefit the country by cheapening products of iron as well as furnishing a better home market for farm stuff. It is fully probable that iron ships may before long be built on Oregon rivers and on Puget Sound, where iron mines are also worked. Should iron manufacture prove really a success, we may look for such results as we do not dream of. Our State has turned out good wooden ships and iron ship building can easily follow. The products of the soil and general living expenses here are so reasonable that labor can easily compete with the East.

While iron manufacture could exist here to some extent without through railroad connection, yet such connection will secure the transportation of laborers in greater numbers and at reasonable cost, and will in every way increase the probability of success in all such enterprises. We must have such facilities before we can reach any high condition as a manufacturing region. We predict our highest hopes of future greatness and prominence on the fact that we possess natural resources to make manufacturing possible. In this respect we must take the lead over all other portions of the West Coast.