

Home Course In Modern Agriculture

II.—How Plants Eat and Grow

By C. V. GREGORY,

Agricultural Division, Iowa State College

Copyright, 1908, by American Press Association

EVERY growing plant is a little factory. The green coloring matter of the leaves, or chlorophyll, is the engine. The sunlight is the power that makes the engine go, and the air, water and some of the substances in the soil are the raw materials.

Under the stimulating influence of sunlight the chlorophyll takes the carbon dioxide gas of the air and the water, nitrogen and minerals which the roots send up in the form of crude sap and tears them to pieces. Then it puts them together again in hundreds of different ways. It makes them into the starch of the potato or the sugar of the sugar beet. It puts them together in another way and makes the hard, bony gluten of a kernel of popcorn or the tough fiber of a cornstalk. By



FIG. III.—THE GROWTH OF CORN ROOTS.

building them up in still different ways it makes the hard wood of the oak or the delicate petals of a rose. Man, with all his skill and machinery, has never been able to make any products half so wonderful as are being made every day in every field on your farm.

If plants are to grow rapidly and produce large yields, they must be well fed. About half the dry weight of a mature plant is made up of carbon. Practically all of this comes from the carbon dioxide of the air. Every acre of wheat will use a ton of this gas or all that is in a layer of air three miles deep over the acre. The constant mixing of the air by the wind is always bringing fresh supplies within reach of the plant.

The farmer does not need to concern himself with the supply of carbon dioxide, for every time he builds a fire or even breathes he is adding to this store of this material in the air.

The smooth upper surface of a leaf is both air and water tight. On the underside, however, are many small openings, which are really the mouths of the plant. It is through these tiny holes that carbon dioxide is taken into the leaf to be used by the chlorophyll.

In making starch and other products out of carbon dioxide and water some oxygen is given off. This passes out through the openings in the leaves. Thus you see that plants breathe in much the same way as animals do, only they give off oxygen, the product which is used by animals, and take up carbon dioxide, the gas which is breathed out by animals. In this way plants make animal life possible. Animals give off carbon dioxide and manure as waste products. Plants tear these waste products to pieces and by rebuilding them make them once more into food for the animals.

Next to carbon hydrogen and oxygen are the foods that the plant uses in largest quantities. Since water is composed of these elements, the supply will be plentiful as long as there is plenty of water in the soil.

There is one element, nitrogen, which forms a considerable part of the plant, that is harder to get. While three-fourths of the air is nitrogen, the plant does not seem to be able to use it in this form. The only kind of plants that can use the nitrogen in the air at all are the legumes, such as clover and alfalfa. Certain bacteria that live on the roots of these legumes have the power of changing the atmospheric nitrogen into forms in which the plant can use it. We shall study more about this process later.

Nitrogen is one of the most important plant foods, and it is one that is very often lacking. If the plant cannot get a sufficient supply of nitrogen it will be stunted, will stop growing early, and the yield will be very much reduced. Since all the crops, with the exception of the legumes, must get their nitrogen from the soil, the farmer must see to it that there is a plentiful supply there if he wishes to obtain a large yield.

If you will drop a little rich black soil on a hot shovel some of it will go up in smoke. The part that burns is humus and is made up of vegetable and animal matter which is partly decayed. This humus contains large amounts of nitrogen, and from this source the greater share of this element used by the plant must come. If your soil is black, spongy and well supplied with humus there is little danger that the plant will go hungry for nitrogen. One of the best ways to keep a liberal quantity of barnyard manure. Another way is to plow under green crops, especially clover. Sometimes it is necessary to buy nitrogen for the plant in the form of commercial fertilizers, but this is a very expensive way of obtaining it.

Even when the plant is given all the nitrogen it can use it sometimes fails

to do well. This is because it cannot get as much of the mineral elements as it needs.

Too much nitrogen in proportion to the amount of mineral elements causes the plant to "go all to vines." There will be an excessive growth of leaves, but the yield of grain will be small. Take an ear of corn or a bunch of alfalfa and burn it. The ashes that are left are the mineral parts of the plant. These cannot be obtained from air or water, but must come from the soil. Some of the most important of these are iron, which is the substance that helps to build up chlorophyll, and sulphur, which is found in the nitrogenous parts of the plant. There are a number of others also, all of which are present in the soil in such large amounts that there will probably always be all that the crops can use.

Two of these minerals, however, potassium and phosphorus, are not so plentiful. When the plant cannot get enough potassium the grain will not be filled out well. If there is too little phosphorus, especially in the case of fruit trees, the development of fruit is checked. Adding barnyard manure to the soil helps to keep up the supply of these two minerals. On farms where little stock is kept or where grain has been raised continually for years and little attention paid to the soil it is sometimes necessary to apply phosphorus and potassium in the form of commercial fertilizers.

In the eastern part of this country there are many farms that have become so badly run down that crops will not grow at all unless they are fed with commercial fertilizers. These are very expensive, and it often takes nearly all a farmer makes to pay his fertilizer bills. These farms would do very well if they were properly cared for. Leaving plowed ground, especially on hillside, exposed for several months during the fall and winter allows much plant food to wash away. Growing the same crop year after year wears out the land rapidly. Different crops require different kinds of food. By changing crops from year to year no one food material is used to excess and the others wasted. By keeping as much stock on the farm as possible, saving the manure carefully and spreading it on the fields before it rots or leeches away and by using leguminous plants to gather nitrogen the soil can be kept well supplied with plant food.

It is much more profitable to feed the crops in this way than to buy plant food on the market at excessive prices. Usually, however, the plant is hungry for the mineral elements not because they are not in the soil, but because they are in a form in which it cannot get at them. The roots of the plant spread all through the soil in search of food. If you will look at a little root through a magnifying glass you will see that it is covered with root hairs. It is through these root hairs that the plant takes up food from the soil. There are no openings directly into them, but the walls are so thin that the water can soak through to the inside. Solid substances, of course, cannot get in, so that the plant food must be dissolved in water before it can get into the roots and so up to the chlorophyll, which is waiting to build it into seeds or leaves.

If the soil has been worked until it is fine and loose each little particle

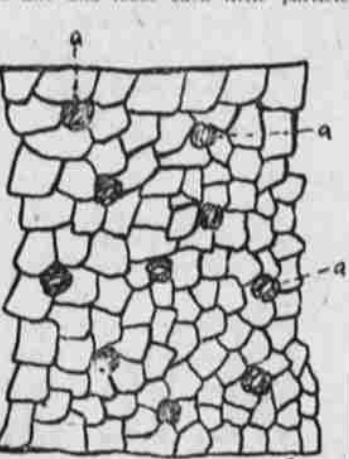


FIG. IV.—MAGNIFIED SECTION OF UNDERSIDE OF LEAF SHOWING BREATHING PORES—A, A, A.

will become surrounded by water, which will readily dissolve the plant food from it. If, on the other hand, the soil is in the form of clumps and clods very little of the plant food can be dissolved. The plant food that is on the inside of a clod might as well be out in the road or over on one of the neighbors' farms.

Some of the potassium and phosphorus will not dissolve even when brought in contact with water. It takes a long contact with the air to cause chemical actions which will change it into a soluble form. Continual stirring of the soil hastens this change. Thorough stirring also loosens up the ground so that air can get down to the roots. Without air they will soon grow and the entire work of the plant will stop. The yellow appearance of a patch of corn in a low place where the ground is water soaked is due to lack of air about the roots.

Seven Years of Proof.

"I have had seven years of proof that Dr. King's New Discovery is the best medicine to take for coughs and colds and for every diseased condition of the throat, chest or lungs," says W. V. Henry, of Panama, Mo. The world has had thirty-eight years of proof that Dr. King's New Discovery is the best remedy for coughs and colds, the grippe, asthma, hay fever, bronchitis, hemorrhage of the lungs, and the early stages of consumption. Its timely use always prevents the development of pneumonia. Sold under guarantee at Jones' Drug Store. 50c and \$1.00. Trial bottle free.

Milwaukee-Northwestern Clackamas

THE JOHNSON REALTY CO.

City Lots, Acreage and Farms

A Specialty.

P. O. Box 213 Milwaukee, Ore.

MILWAUKEE.

Veterinary surgeon will be in Milwaukee every Friday. Leave word at Milwaukee Pharmacy.

Will Kelso, who has been ill for the past week with tonsillitis, is recovering.

The Milwaukee Grange, No. 268, held its regular meeting in the grange hall Saturday, January 16. Routine business took up the greater part of the forenoon and lunch was served at 12 o'clock. The principal event of the afternoon was the installation of officers. W. C. Young of the Lewis Grange, called the officers, who were as follows: J. R. Kelso, master; Mrs. C. Pareline, overseer; Miss Kate Casto, financial secretary; Mrs. Ella Maple, recording secretary; Mrs. M. A. Johnson, lecturer; J. W. James, steward; T. R. A. Sellwood, chaplain; E. C. Dye, assistant steward; Mrs. Hammond, lady assistant steward; W. Russell, gate keeper; Mrs. Blitting, Panama; Mrs. Anderson, Ceres; and Mrs. Robins, Flora. Resolutions were passed endorsing the Johnson Good Roads bill, and a bill extending the powers of the state railroad commission. After that followed an entertaining programme, which lasted about an hour. Memorial services in respect to J. S. Casto, the deceased member of the grange.

T. R. A. Sellwood, J. W. James, Michael Walsh and Mr. and Mrs. J. L. Johnson, attended the Clackamas County Pomona grange meeting at Oswego, Wednesday, January 13.

Mr. and Mrs. Wendel and daughter, Thelma, of Roseville, Oregon, have been visiting with Mrs. Wendel's mother, Mrs. S. J. McCann and her sister, Mrs. J. L. Johnson.

Mr. and Mrs. William Hooper, of Clackamas, have moved into the Charles McCann house.

Raymond Walker Cruise, the three and one-half year old son of Mr. Cruise, a conductor on the O. W. P. line, had a very serious accident the first part of the week. The little fellow, who was upstairs playing, fell down and dislocated his neck and shoulder. Dr. Belt was summoned and at first thought that recovery was impossible, as the neck was practically broken, his head having been turned around. After a great deal of careful work the physician managed to get the bones in the right place and the little fellow is doing nicely. Dr. Belt reports that ninety-nine out of a hundred cases of this nature prove fatal.

Dr. Robert Yenney, secretary of the state board of health, was in Milwaukee Wednesday looking after the small pox. He visited a number of places, which have been quarantined and reports that it was small pox, but in a very light form. The board and the state physician decided that all scholars should be vaccinated. Friday has been the day set and all are requested to be at the school house. The school district will pay for the vaccinating and those failing to be vaccinated will not be permitted to come to school, but must be kept at home in their own yard.

The dance given by the Milwaukee Suburban Club in the City hall Saturday evening, January 16, proved a great success socially, and it has been stated one of the best dances that have ever been held in the city. There were about 40 couples present. Niles orchestra of Portland furnished the music for the evening. The next dance given by the club will be January 20, and it is expected that a larger number will be present.

Lehman Bros. have put up about 20 tons of ice for summer use at their meat market in this city. The ice, which is about five inches thick was taken out of Crystal lake and is, therefore, the best. If the cold had held on for a few days longer they would have filled up their ice house which has a capacity for about 100 tons.

Milwaukee School Notes.

William Stein absent on account of the measles. Isn't it a "measley" shame?

Pearl Walling is a new pupil in Miss Kate Casto's room.

Lyle Gumsales, of Miss K. Casto's room, has moved to Portland.

Mill Hall visited Mrs. Elser's room on Wednesday.

Miss Johnson and Miss Ellen Roberts visited in Mrs. Shaw's room on Wednesday.

TRUX & SOX, Reporters.

Kennedy's Laxative Cough Syrup tastes nearly as good as maple sugar. It cures the cold by gently moving the bowels and at the same time it is soothing for throat irritation, thereby stopping the cough. Sold by Jones Drug Co.

OAK GROVE.

Nels O. Cedersdorn died at his home in Oak Grove Wednesday, January 13, at the age of 68 years, 4 months and 8 days. He was born in Sweden, September 5, 1840, and came to the United States in 1869, taking up his residence in Kansas City, where he



Step in if you want to see a fine display of Canned Fruits and Vegetables. The only pointers you need are your two eyes and a knowledge of values when you come here. We always sell the best goods at the lowest prices. Finest York State Corn, 12c a can Sweet, tender Peas, 10c a can Delicious Apples, Peaches, 25c a can

Harris' Grocery
8th and Main Streets

not large enough to carry half the water in the winter, but they thought the farmers did not know, and put them in. It will be very convenient for a good many people and a great expense too.

The bridge on Rock Creek between the school house and Koser's was winning around Tuesday evening and Mr. Soderberg, coming home from Portland just after dark drove into the water not knowing of the trouble, when his horse fell down he managed to get the harness loose and it swam out. He then had to go home and get help, and another team and finally got his wagon home.

Joe Deardorff went through Donley's to get to town Wednesday morning.

The revival meetings at Sunnyside will continue until the last of the week. They have between 15 and 20 converts. Some have to make restitution before the way is clear to join. There seems to be quite an interest in the meetings.

Harris and Burton Deardorff took a sleigh ride one day last week. This took them to Joe Deardorff's and to church in the evening. A great many made good use of the snow while it lasted.

STAFFORD.

With the rest of Oregon and indeed the whole of this terrestrial sphere—as far as heard from—Stafford has been having some "peculiar" weather since the 5th inst., with snow a foot deep and drifted in some places to many times that depth, and mercury down to two degrees below zero. Well-fitted for nearly a week, then began to rise up runners of every description and get out and enjoy the unaccustomed pleasure of sleigh riding, but at the present time the familiar sound of the dear old rain is heard upon the roof again and people feel better.

Mrs. Welsborn has a severe cold. The Delkar brothers got her some food.

Zack Ellogsen has been quite sick with stomach trouble.

Mrs. Beckman is again under the doctor's care.

Mr. Nimble's team ran away Thursday. They were caught at Powell's. No damage done.

Mr. Gage got out his sleigh and drove his wife and daughter to Grange Wednesday and went after them next day. In coming home he turned out to pass another sleigh and went in to the ditch, turned over and spilled all of the occupants out, and all tangled up in the covers so they were helpless, but he kept hold of the reins and ran the horses up a bank into the fence, and the driver of the other sleigh sprang to their heads and helped right the overturned sleigh, after which all proceeded on their way, feeling sure they had had a genuine sleigh ride, and thankful that the horses were secured before running away, as they were driving a span of colts.

The Stafford teachers are energetic young ladies. They attended to their duties as teachers every day during the ten days of snow and cold and most of the pupils followed their example. Our mail carrier also, on Route 1, missed two days only. To-day Tuesday, it has rained and wind blew furiously all night.

Mrs. Powell's sister and children are still with her. Owing to the inclemency of the weather she will be unable to visit the other sisters at this time.

For health and happiness—DeWitt's Little Early Rising—pleasant little River pills, the best made. Sold by Jones Drug Co.

Letter List.

List of unclaimed letters at the Oregon City post office for the week ending January 22: Women's list—Mrs. W. Hurd, Miss Olga Hanson, Mrs. Kate LaPoint, Mrs. list—Bennett, John B. Bent, Fred Brown, Olga Flood, John Lockwood, Ray.

JENNINGS LODGE.

The weather man has been trying to please every one in Oregon for we certainly have had all kinds of weather lately. Our rural carrier, Mr. Arnold, is still unable to make his entire route each day, and as there are about twenty-five boxes at this place that many families are obliged to be content with their mail every third day, and a great many did not receive their Oregon City papers until Monday of this week.

Allen Brown, Jr., is so much improved that he is able to be out again, which his little friends will be pleased to hear.

Mrs. Gilmore and baby, of Hood River, have returned to their home after a visit with her sister, Mrs. Bert Boardman. Miss Post, who is on her way home to Prineville, Oregon, will spend a fortnight at the Bert Boardman home. Miss Post is also a sister of Mrs. Boardman.

Mr. Miller, salesman for Mr. Rice, the grocer, spent Saturday and Sunday at his home in Vancouver, Wash. Miss Lillian Ricketts, of Albina, who has been visiting her aunt, Mrs. Sylvia Wilcox, for two weeks, has returned to her home.

Rev. Shupp, of Milwaukee, will preach a series of sermons at the chapel on "Why Christ Came to the World." The first was preached January 17, and all who had the opportunity to hear the able discourse, thoroughly enjoyed it. Sunday school will be held each Sunday at 2:30 P. M. and all are most cordially invited to attend both and enjoy this series of sermons, which Rev. Shupp is preparing to give us on the three following Sundays.

The Ladies' Club, which was to have met with Mrs. Morse on January 14, has been indefinitely postponed.

Mr. and Mrs. G. D. Boardman spent Sunday with friends in Portland.

Mr. and Mrs. Hampton, of Portland, were out on Sunday afternoon.

During the past week, Arthur Caddy has been finishing the inside of the artist's little, cobblestone house for Mrs. H. Emmons on her river front property.

A number from here are planning on going to hear Ben Hur at the Helix in Portland this week.

Arthur Roberts, who is agent for the Oregon Journal, of this place, made a business trip to Portland on Saturday.

Little Doris Painton has been confined to her home the past few days with illness.

SUNNYSIDE AND ROCK CREEK. The fill that was put in last week, near by Dick Hunter, washed out Tuesday afternoon and of course stopped travel, except the mail carrier, who went through Dick's place when they were working. Nearly every one told them that the pipes were

HER NAME IS IRISH.

Woman Gives Her Name As Taylor and Divorce Is Held Up.

Mrs. Mary Irish will have some delay in obtaining a divorce through a reluctance to assume her husband's name. Mrs. Irish was Miss Mary Taylor and she was married to Lewis Irish but inside of 24 hours their relations were so strained that they concluded to live apart. Less than two months ago the wife concluded to bring suit for divorce and she consulted Attorney George C. Brownell, telling him her name was Taylor. She lived with Irish just a day, did not like him and saw no reason why she should use his name. Brownell was advised that the husband's first name was Lewis so suit was instituted by Mary Taylor against Lewis Taylor. Summons was obtained by publication and all went merry until Wednesday when Referee Runyon held himself in readiness to take the testimony in the case. It was only then that the true name of Mrs. Irish was disclosed and proceedings came to an abrupt termination. Another suit was immediately commenced and the filing fees remitted by the court. Mrs. Irish will have to wait about two months for her divorce.

"STUNG," SAID ACKERMAN.

Candidate For Governor Is Victim of Practical Joke.

Hon. J. H. Ackerman, state superintendent of public instruction, was in the city Wednesday on educational matters. He is a candidate for Governor and was the victim of an amusing joke at the hands of County School Superintendent Gary and Judge Thomas F. Ryan. The three men met in Mr. Gary's office before noon and it was suggested that they go to lunch together. Here is where the jocular spirit of Mr. Gary was manifested.

"We'll just go over to the Methodist Church," said he. "They are serving lunch there today and you will be sure to meet lots of voters."

Ackerman brightened up immediately and the three walked over to the church. The astonishment of the gubernatorial candidate was great when he found that about 20 women were there and just one man, in the person of W. F. Shoolley, the real estate dealer.

"Lots of voters" is very good," quoth Mr. Ackerman.

Good for cuts, burns, bruises and scratches, but especially recommended for piles—DeWitt's Carbolic Witch Hazel Salve. Sold by Jones Drug Co.

Licenses to Marry.

Licenses to marry have been issued by County Clerk Greenman to Mattie J. Hohn and S. H. Tate, Freda H. Duns and N. L. Kirchman, Myrtle Gray and William C. Dentel, Sidney J. Fore and Minnie A. Hughes, Anna May Porter and Alfred G. Smith, Lida Kees and Fred G. Bullis, Vina Moehne and Henry Staben, Charles Courtney and Miss A. L. Smith. The latter couple was married by Justice of the Peace Samson.

CASTORIA

For Infants and Children. The Kind You Have Always Bought Bears the Signature of *Wm. D. Mitchell*

Letter List.

List of unclaimed letters at the Oregon City post office for the week ending January 22: Women's list—Mrs. W. Hurd, Miss Olga Hanson, Mrs. Kate LaPoint, Mrs. list—Bennett, John B. Bent, Fred Brown, Olga Flood, John Lockwood, Ray.

Mrs. Julia Beebe, of Carus.

The funeral of the late Mrs. Julia Charlotte Beebe, who died last Wednesday at Carus, was held Friday afternoon at the Carus church, Rev. J. R. Landsborough, pastor of the First Presbyterian Church of Oregon City, officiating. Mrs. Beebe was born in Madison County, New York, July 21, 1820, and was married January 21, 1844 to Captain Eri Beebe, who survives her. Their married life covered the unusual period of 64 years. Mrs. Beebe leaves one son, W. S. Leebe, of Carus, and a sister, Mrs. Lydia Youngs, of Carus. Deceased was a woman highly respected and loved by hundreds of friends.

Rev. Oakley's Mother Dead.

Rev. E. Clarence Oakley, pastor of the Congregational church, received a telegram Friday stating that his mother, Mrs. Louisa Marie Oakley, of Detroit, Mich., had passed away. Mrs. Oakley was 83 years of age at the

time of her death, and has been in poor health for several months. Rev. and Mrs. Oakley visited her while on their eastern trip last summer. The funeral was held on Monday, the interment being held in Detroit.

Mrs. Marian Madgwick, of Stone. Mrs. Marian Madgwick died Saturday at Stone, aged 37 years, of peritonitis. She is survived by a husband, Albert Madgwick. The remains were brought to this city and were shipped Monday night from Holman & Meyers' undertaking establishment to Detroit, Mich., for interment.

Mrs. Kiser, of Oswego. The funeral of the late Mrs. Kiser, who died at Oswego, was held Sunday afternoon from the Methodist Episcopal Church of Oswego, Rev. W. B. Moore, of Clackamas Station, officiating. The interment was in Oswego cemetery. Mrs. Kiser was 71 years of age. She came to Oswego in 1830. She had eight children.

S. Olsen, of Clackamas Station. S. Olsen died Monday at his home in Clackamas Station. His age was 62 years. The funeral was held Wednesday from his late residence and the interment was in Clackamas cemetery.

Mrs. R. G. Casaday, of Carus. Mrs. R. G. Casaday died last Sunday morning at her home in Carus, after a long illness. She had been totally blind for several years. The funeral was held Tuesday at Carus.

REAL ESTATE

L. S. Heacock to G. U. Snapp—NW 1-4 of SW 1-4 Sec. 28, 1-5 E; \$1000. J. G. Sleut to G. Nashahn—E 35 School Superintendent Gary and Judge Thomas F. Ryan. The three men met in Mr. Gary's office before noon and it was suggested that they go to lunch together. Here is where the jocular spirit of Mr. Gary was manifested.

"We'll just go over to the Methodist Church," said he. "They are serving lunch there today and you will be sure to meet lots of voters."

Ackerman brightened up immediately and the three walked over to the church. The astonishment of the gubernatorial candidate was great when he found that about 20 women were there and just one man, in the person of W. F. Shoolley, the real estate dealer.

"Lots of voters" is very good," quoth Mr. Ackerman.

Good for cuts, burns, bruises and scratches, but especially recommended for piles—DeWitt's Carbolic Witch Hazel Salve. Sold by Jones Drug Co.

Licenses to Marry.

Licenses to marry have been issued by County Clerk Greenman to Mattie J. Hohn and S. H. Tate, Freda H. Duns and N. L. Kirchman, Myrtle Gray and William C. Dentel, Sidney J. Fore and Minnie A. Hughes, Anna May Porter and Alfred G. Smith, Lida Kees and Fred G. Bullis, Vina Moehne and Henry Staben, Charles Courtney and Miss A. L. Smith. The latter couple was married by Justice of the Peace Samson.

Mrs. Powell's sister and children are still with her. Owing to the inclemency of the weather she will be unable to visit the other sisters at this time.

For health and happiness—DeWitt's Little Early Rising—pleasant little River pills, the best made. Sold by Jones Drug Co.

Letter List.

List of unclaimed letters at the Oregon City post office for the week ending January 22: Women's list—Mrs. W. Hurd, Miss Olga Hanson, Mrs. Kate LaPoint, Mrs. list—Bennett, John B. Bent, Fred Brown, Olga Flood, John Lockwood, Ray.

Mrs. Julia Beebe, of Carus.

The funeral of the late Mrs. Julia Charlotte Beebe, who died last Wednesday at Carus, was held Friday afternoon at the Carus church, Rev. J. R. Landsborough, pastor of the First Presbyterian Church of Oregon City, officiating. Mrs. Beebe was born in Madison County, New York, July 21, 1820, and was married January 21, 1844 to Captain Eri Beebe, who survives her. Their married life covered the unusual period of 64 years. Mrs. Beebe leaves one son, W. S. Leebe, of Carus, and a sister, Mrs. Lydia Youngs, of Carus. Deceased was a woman highly respected and loved by hundreds of friends.

Rev. Oakley's Mother Dead.

Rev. E. Clarence Oakley, pastor of the Congregational church, received a telegram Friday stating that his mother, Mrs. Louisa Marie Oakley, of Detroit, Mich., had passed away. Mrs. Oakley was 83 years of age at the

time of her death, and has been in poor health for several months. Rev. and Mrs. Oakley visited her while on their eastern trip last summer. The funeral was held on Monday, the interment being held in Detroit.

Mrs. Marian Madgwick, of Stone. Mrs. Marian Madgwick died Saturday at Stone, aged 37 years, of peritonitis. She is survived by a husband, Albert Madgwick. The remains were brought to this city and were shipped Monday night from Holman & Meyers' undertaking establishment to Detroit, Mich., for interment.

Mrs. Kiser, of Oswego. The funeral of the late Mrs. Kiser, who died at Oswego, was held Sunday afternoon from the Methodist Episcopal Church of Oswego, Rev. W. B. Moore, of Clackamas Station, officiating. The interment was in Oswego cemetery. Mrs. Kiser was 71 years of age. She came to Oswego in 1830. She had eight children.

S. Olsen, of Clackamas Station. S. Olsen died Monday at his home in Clackamas Station. His age was 62 years. The funeral was held Wednesday from his late residence and the interment was in Clackamas cemetery.

Mrs. R. G. Casaday, of Carus. Mrs. R. G. Casaday died last Sunday morning at her home in Carus, after a long illness. She had been totally blind for several years. The funeral was held Tuesday at Carus.

CLACKAMAS ABSTRACT & TRUST COMPANY.

Land Titles Examined. Abstracts of Title Made. Office over Bank of Oregon City.

JOHN F. CLARK, Mgr.

WHY NOT TRY Popham's ASTHMA REMEDY Gives Prompt and positive relief in every case. Sold by druggists. Trial package by mail 10 cents.

Williams Mfg. Co., Props., Cleveland, O. For sale by Huntley Bros. Co.

Mrs. E. C. Moreland

110 SIXTH ST., PHONE MAIN 1542