### Wallowa County Chieftain

### County Pioneer Paper

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THURSDAY, MAY 27, 1909.

### MURPHY AS SENATOR LANGDON.

a siur, by, one of the most popular actors in the United States a decade ago, is repeating his former triumphs in the character of Senator Langdon, in "A Gentleman From Mississippi." The play is havmg a great run in Chicago at the present time. Mr. Murphy is well remembered by older playgoers in the character of Maverick Brande of the Hoyt farces.

by installments, save the papers notice of intention to make Final five from week to week until "A Gentle year Proof, to establish claim to the man From Mississippl" is complete L. and above described, before D. W. It is not a long story and no one Sheahan, U. S. Commissioner, at En- twisting themselves about, and still should miss the pleasure and in Sheahan, U. S. Commissioner, at Enstruction contained in it.

#### MONEY WASTED.

will be looked upon as of right grade naha, Oregon and other walks and even the street 37c5 will be made to conform to them, thus throwing everything from the hotel to the Fraternal building corner below grade in a few years. The result will be low places that will state, or of persons not properly he standing pools of water during keeping screens over irrigation wet seasons. Another resulting in ditches, are requested to notify convenience and annoyance will be

The walks should be taken out and rebuilt to grade. As they are it is \$160 of taxpayers' money worse than wasted.

ever see to secure a centrally local- restores health and strength, Pleased park. One fine opportunity was int to take and contains no harmful let go by last year; such negligence drugs. Why not commence today? should not be repeated. The search Burnaugh & Mayfield's, for a suitable site for the Fourth of July celebration but emphasizes the necessity for a park,

#### Won't Slight a Good Friend,

"If ever I need a cough medicine igain I know what to get," declares . rs. A. L. Alley, of Beals, Me., "for after using ten bottles of Dr. King's New Discovery, and seeing its excel lent results in my own family and others, I am convinced it is the besmedicine made for Coughs, Colds and lung trouble." Every one wh tries it feels just that way. Relief is felt at once and its quick cure sur prises you. For Broachitis, Asthma Hemorrhage, Croup, LaGrippe, Sore Throat, pain in the chest or lungs it's supreme, 50c and \$1.00. Trial bot

#### Firs From Wallowa County. From La Grande Star

Councilman Kreiger stated Tuesbeen definitely determined,

### Branch Run Advertised.

From the La Grande Observer, Conductor C. G. Stacy has the run in place of Conductor Connors who is on the new mainline train. The Elgin run is now advertised, and the oldest man in point of service who wishes it will have the job after the 15 days of advertising are up.

### Rev. I. W. Williamson's Letter.

Rev. 1, W. Williamson, Huntington. W. Va., writes: "This is to certify that I have used Foley's Kidney Remedy for nervous exhaustion and kidney trouble and am free to say that it will do a'l that you claim for it." Foley's Kidney Remedy has restored health and strength to thousands of weak, run down people. Contains no harmful drugs and is pleasant to take. For sale by Burnaugh & Mayfield.

#### Chamberlain's Liniment

This is a new preparation and a good one. It is especially valuable as a cure for chronic and muscular rhoumatism, and for the relief from pain which it af ords in acute inflammatory rhe matism. Those who have used it have invariably spoken of it in the highest terms of praise, Law back, lame shoulder and stiff b'rck are due to rheumatism of the musles, usually brought on by exposure o cold or damp, and are quickly ured by applying this liniment freely ind massaging the affected parts. oreness of the muscles, whether nduced by violent exercise or injury, s allayed by this liniment. For sale y Burnaugh & Mayfield.

#### NOTICE FOR PUBLICATION.

Department of the Interior, United States Land Office at La brande, Oregon, May 3, 1909,

Notice is hereby given that John F. icCoy, of Imnaha, Oregon, who, on day 8, 1902, made Homestead Entry No. 11360-Secial No. 03639, for Lot in "A Texas Steer," one of the best 2, SE4 NW4, andS4 NE4, Section 10, Township 2 North, Range48 if you object to reading a story East, Willamette Meridian, has filed terpries, Oregon, on the 21st, day of which they move themselves along. June, 1903.

Claimant name; as witnesses: Gil-It is a big mistake on the part of bert H, Vest of Enterprise, Oregon; the street committee to accept Jonathan Haas, of Enterprise, Oregon permanent crosswalks constructed Luther Stumbaugh of Imnaha, Ore below grade. The concrete walks gon; Jasper N. Stubblefield, of Im-

F. C. Bramwell, Register.

#### GAME LAWS.

Any person knowing of any viola tion of the game or fish laws of th

JOE CLEMONS. the steps from one level to another. Deputy State Game and Forests, Warden, Zumwalt, Oregon. 42tf

If you want to feel well, look well and be well, take Foley's Kidney Remedy. It tones up the kidneys This is the best time this city will and bladder, purifies the blood and

#### HIDES AND PELTS WANTED. Bring your hides and pelts to En-

terprise and receive big price for hem. Joe Allen & Co. Warehouse vest of Boswell's barn.

#### Lived 152 Years.

Wm Parc-England's oldest mannarried the third time at 120, work d in the fields till 132 and lived 9 years longer. People should be outhful at 80. James Wright, o' parlock, Ky., shows how to remain oung, "I feel just like a 16-yeard boy," he write; after taking six bottles of Electric Bitters. For thiryears kidney trouble made life a parden, but the first bottle of this wonderful medicine convinced me I tle free. Guaranteed by Burnaugh & sarth." They're a godsend to weak. had found the greatest cure on dekly, rundown or old people. Try them. 50c at Burnaugh & Mayfield's.

### STALLION BOOKS.

Indispensable records for owners day that supplies of evergreens for of stallions, description of mares, the court house grounds would be se dates of service, time of payments cured in a few days. The firs and and all necessary data, printed on spruce to be set out will probably be good paper and strongly bound in brought from the Wallowa valley boards with cloth back, for sale at The exact number to be used has not this office, or sent postage prepaid on receipt of price, \$1.

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MATTIE A. HOLMES

# Liome Course In Modern Agriculture

### XI.—Bacteria - How They Affect the Farmer

By C. V. GREGORY, Agricultural Division, lowa State College

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E hear a great deal about bacteria, or germs, as they are more popularly called, but few people know what they really are. Although they are so small that it would take several thousand together to make a spot large enough to be seen with the naked eye, yet their importance to the farmer is not measured by their

Bacteria are tiny plants, each composed of a single cell. These cells are of various shapes and sizes. Some are round, some long and some shaped like a corkscrew. Some are found singly and some in groups. Some

cannot move at all, some move by others have long, tail-like flagella by

Bacteria are made up of a clear, jellylike material called protoplasm. This protoplasm is surrounded by a harder cell wall. There is a great difference in the thickness of these cell walls, and on this thickness depends to a large extent the ability of the germs to withstand unfavorable conditions. Those with thin cell walls can be killed easily, while the thicker walled kinds are very difficult to exterminate.

Bacteria propagate themselves by dividing. One cell divides into two. Each of these two grows to full size and divides again, and so on. Under favorable conditions this process may be repeated every half hour. At this rate the descendants of one germ would in ten hours number more than

At times the part of the protoplasm of a germ will gather into a round. comparatively hard mass, called a spore. The rest of the cell then crumbles away. This spore is inactive, but possesses much greater powers of resistance than when in the active state. These spores often remain alive to start the infection afresh after the active bacteria have all been killed by disinfection.

Bacteria, like higher plants, have definite requirements for growth. One of the most important of these is moisture. Drying will not kill bacteria, but it will stop their multiplication. Another essential to bacterial growth is warmth. Cold, like dryness, will not kill them, but it will stop them from multiplying. This is the reason that the souring of milk or the spoiling of meat, which is caused by bacteria. goes on much more slowly or not at all when they are kept in a cold place.

One of the principal foods of bacteria is nitrogen. Without it they cannot live. Because of this fact sugar and lard, which contain no nitrogen. never spoil. Bacteria also require oxygen, though only certain species are dependent on the air for their supply. One of these is the kind that causes meat and vegetables to decay. This is why canned fruit and vegetables do not spoil. The bacteria have been killed and the oxygen driven off by heating. The few germs that do get in before the can is sealed up cannot develop for lack of air. If the can is not air tight, however, some oxygen will find its way in, the germs will multiply, and the contents will spoil.

Not all bacteria are injurious. Although some of man's most deadly enemies are found among these invisible micro-organisms, yet many of them are his best friends. We have already learned about the bacteria that live on the roots of legumes and change the nitrogen of the air into a form in



FIG. XXI-SOME TYPES OF BACTERIA. which it can be used by plants. The rotting of manure and trash to make humus and of humus to make the elements of plant food available is also due to the action of bacteria. In this way bacteria, by making animal wastes available for plant food, complete the circle of plant and animal

The putrefying bacteria, or those which cause rotting, are more beneficial than harmful. By their action dead animals and other refuse matter are quickly reduced to the elements from which they were nade. Even the odor given off during the process is also beneficial as a reminder that the matter of burying or burning has been neglected.

Other micro-organisms in the form of yeast are a necessary help in breadmaking. The yeast plants, growing in the dough, set free considerable amounts of carbon dioxide. This gas in trying to escape fills the dough with holes and spaces, making it "rise."

The bacteria which cause milk and cream to sour are also useful. Butter made from sweet cream is lacking in flavor, and there is not so much of it. since the globules of butter fat do not collect as readily as in sour cream. But, while the germs that cause milk to sour are harmless, there are others teria. Let the scientists do that,

often found in milk that are not. The first variety will always be plentiful enough anyway, and the others should be kept down to as small a number as possible.

One of the most Important methods of doing this is by cleanliness. The milk pails and strainers and the separator should be thoroughly cleaned every time they are used. Mere rinsing with cold water is not enough Following the ordinary washing by scalding with boiling water is the only sure way of killing all the germs. In cleaning dishes a brush is much better than a rag, since it can be more easily rleaned itself. A dish rag remains damp for a long time after it has been used and furnishes an excellent place flavor" caused by these can often be detected in butter.

After the dishes have been scalded they should be placed in the sun for several hours. There should be as

FIG. XXII-HOW SPORES ARE FORMED much sunshine as possible in the milk room and cow stable also. Sunlight, which is so necessary to the growth of the higher plants, is fatal to bacteria.

The stable where the milking is done should be cleaned and aired every day. A coat of whitewash should be applied occasionally, as in addition to being a good germ killer it also makes the stable much lighter. Hay should not be fed immediately before milking, as the dust from it is covered with bacteria. The udders and flanks of the cows should be kept perfectly clean. A little dirt falling from them into the milk will take with it thousands of germs. The milk should not be left in the barn after it is drawn, but taken immediately to the milk room.

Many creameries and city milk dealers practice pasteurization. This simply consists in heating the milk to as high a temperature as possible without scalding it. This kills most of the germs, and the few that are left will not develop rapidly enough to do much harm. In creamerles a starterthat is, a portion of milk which contains a particular kind of bacteria-is added after pasteurization and the cream then "ripened" for twelve hours or so. By thus supplying germs which are known to produce desirable flavors and killing the others butter of very high quality may be made.

There are bacteria everywhere-in the soil, in the air and in the water. By far the greater number of these are harmless. Even disease germs are unable to obtain a foothold in a perfectly healthy animal or person. The secretions of the mouth and the digestive organs are fatal to many of them. Even if they succeed in getting into the blood they are not yet out of danger. The blood contains large numbers of white corpuscies, which seem to have no duty to perform but to seize and destroy these invaders. It is only when an animal becomes weakened from one cause or another that these corpuscles fall to do their duty and the germs begin their destructive work.

The first step in avoiding infection by disease producing bacteria, then, to keep the animals healthy by proper feed, exercise and shelter. The next point is to do everything possible to prevent the germs from getting into the animal's body.

In case a contagious disease of any sort appears the sick animals should be shut up by themselves as far as possible from the rest of the herd. Disinfectants, such as coal tar dips and bichloride of mercury (one part of the chemical, two parts salt and 1,000 parts water), should be used freely. Care should be taken not to carry the germs from the sick animals to the well ones while caring for them.

Wounds, such as wire cuts, need especial care to prevent infection. Ordinary disinfectants are too irritating, yet something must be done to keep the bacteria from attacking the raw surfaces. Keeping the wound bound up tightly and sprinkling daily with powdered iodoform is one of the best ways of insuring rapid healing. The germ problem, like the problem

of weeds and insects, is easily solved if it is gone at in the right way. Cleanliness, sunlight and disinfection will do much to hold the injurious ones in check, and the others need no encouragement to continue doing their invisible though none the less real work to help us. There is no especial reason why the germ problem should be made a matter of constant uneasiness on the part of the farmer. It requires a scientist to discriminate between bacteria that are injurious and those that are necessary, and in the meantime it is sufficient for the ordinary agriculturist to be diligent in intrenching himself behind cleanliness. Thus fortified he will have little occasion to make a special study of bac-

The Tablets relieved the ill feeling at once, strengthened the digestive functions, purified the stomach, liver and blood, helping the system to do its work naturally.-Mrs Rosa Potts, Birmingham, Ala. These tablets are for sale by Burnaugh and Mayfield.

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