INDEPENDENCE AND MONMOUTH RAILWAY

From Independence to Dallas

Train No. 64 leaves Independence daily at 6:00 a. m. and Monmouth at 6:15 a. m. and arrives at Dallas at 6:40 a. m.

Train No. 68 leaves Independence daily at 10:50 a. m. and Monmouth at 11:05 a. m., and arrives at Dallas at 11:30 a. m.

Train No. 70 leaves Independence daily at 6:15 p. m. and Monmouth at 6:30 p. m., and arrives at Dallas at 6:55 p. m.

From Independence to Airlie.

Train No. 61 leaves Independence daily at 7:30 a. m. and Monmouth at 7:45 a. m., and arrives at Airlie at 8:20 a. m.

Train No. 73 leaves Independence daily at 2:20 p. m. and Monmouth 2:50 p. m., and arrives at Airlie at 3:25 p. m.

From Dallas to Independence.

Train No. 65 leaves Dallas daily at 8:30 a. m. and Monmouth at 8:55 a. m., and arrives at Independence at 9:15 a. m

Train No. 69 leaves Dallas daily at 1:00 p. m. and Monmouth at 1:35 p. m. and arrives at Independence at 1:40 p. m. (This train connects at Monmouth for Airlie.)

Train No. 71 leaves Dallas daily at 8:00 p. m. and Monmouth at 8:25 p. m., and arrives at Independence at 8:40 p. m.

From Airlie to Independence

Train No. 62 leaves Airlie daily at 9:00 a. m. and Monmouth at 9:10 a. m., and arrives at Independence at 9:45 a. m.

Train No. 72 leaves Airlie daily at 4:05 p. m. and Monmouth at 4:40 p. m., and arrives at Independence at 4:50 p. m.

DEPARTURE OF BOAT

Launch Independence leaves the Independence dock for Salem at 8:30 a. m. daily.

RETURNING

Leaves Salem dock at 4:00 p. m.,.
Fare 50 cents each way.

AUTOMOBILE TIME CARD

Leaving Independence at 7:30 a. m. arrives at the McNary crossing in time to catch the east bound train.

Leaving Independence in the evening at 3:30 p. m. and arriving at the crossing in time to make connection with trains going both ways, and return at 4:49.

Fare 50 cents for each trip.

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HOMER LODGE, No 45 meets every Monday evening in their castle hall, Independence, Ore Visiting Knights welcome. 7:30 is the hour.
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DANGER TO PUBLIC HEALTH

German Professor Points Out How Easily Contagion May Be Carried By Domestic Utensils.

In view of the recent passage of the New York law prohibiting the use of public drinking cups, a suggestion of Prof. A. Ritschlof Frieburg, Germany, is of timely interest. He has just called attention to a possible factor in the spread of infectious conditions of the mouth, nose and pharynx, which he believes to be insufficiently recognized in most households—viz., the table utensils, such as the forks, spoons and glasses which come into contact with the mouth. He points out that these are usually washed altogether, often very perfunctorily, and then dried upon the same cloth, so that it is not surprising if the infective agent gets distributed by this means. Professor Ritschl states that in his own family the utensils used by any member suffering from an infectious condition are separately sterilized in boiling water. One of his children having contracted mumps at school recovered without communicating the disease to any other member of the family. Professor Ritschl insists upon the importance of strict measures in regard to this matter in restaurants, hotels and boarding houses, and he is of opinion that if these precautions were adopted it would be less common than at present for people to complain of "catching cold."

The Lancet says that precautions in regard to this matter are generally adopted at sanatoriums for the treatment of pulmonary tuberculosis, where this danger is recognized, and at hospitals and public institutions; but Professor Ritschl's note may serve to draw the attention of the public to this question, since there can be little doubt that the ordinary process of washing, unless carried out thoroughly with very hot water, is not calculated to destroy infective organisms.

HAPHAZARD NATURE.

We say that nature is blind, but she has no need of eyes, she tries all courses; she has infinite time, infinite space; and so far as our feeble minds can see, her delight is to play this game of blind-man's buff over and over to all eternity. Her creatures get life, and the joy and pain that life brings, but what is augmented, or depleted, or concluded, or satisfied, or fulfilled—who knows? Yet through this hit-and-miss method of nature, things have come to what they are; life has come to what we behold it; the trees and the plants are in their places; the animals are adjusted to their environment; the seeds are sown, fruits ripen, the rains come, the weather system is established, and the vast and complex machinery of the life of the globe runs more or less smoothly; non-directed, in the human sense. Blind groping, experimenting, regardless of waste, regardless of pain, regardless of failure, circuitous, fortuitous, ambiguous, traversing the desert and the wilderness without chart or compass, beset with geologic, biologic, and cosmic catastrophes and delays, yet the great procession of the life of the globe, with man at its head, has arrived and entered into full possession of the inheritance prepared for it.—John Burroughs, in the Atlantic.

MOWING THE SEA.

In these days when conversation seems to be an economic watchword the idea of mowing the sea has come into some clever head. In the Pacific ocean off the coast of California is a great meadow. It is made up largely of kelp, one of the mightiest of all the world of vegetation. This kelp is vinelike and creeps along the bottom of the sea. It sends up its branches for hundeds of feet and there bear leaves and fruits as big as pumpkins. A device has been invented for cutting this sea plant and in a little while it is expected that a big crop will be harvested along the coast of California. The plant is wonderfully useful as a fertilizer. It contains nitrogen, which makes stalks and leaves, phosphoric acid, which makes buds and blossoms, and potash, which gives size and quality to fruits, grains and vegetables. Annually, we pour millions and millions of dollars' worth of fertilizer into the sea. We will get it back to the starved land by mowing the sea.

THE ANCIENTS AND CHRISTIANITY.

In the words of Lecky in his "History of European Morals: "There is no fact in the history of the human mind more remarkable than the complete unconsciousness of the importance and the destinies of Christianity manifested by the pagan writers before the accession of Constantine. That the greatest religious change in the history of mankind should have taken place under the eyes of a brilliant galaxy of philosophers and historians, and that during the space of three centuries they should have treated as simply contemptible an agency which all men must now admit to have been, for good or for evil, the most powerful moral lever that has even been applied to the affairs of men, is a fact well worthy of meditation."

FARM AND ORCHARD

Notes and Instructions from Agricultural Colleges and Experiment Stations of Oregon and Washington, Specially Suitable to Pacific Coast Conditions

GROUND LIMESTONE: WHAT IS IT AND WHAT IS ITS ACTION ON THE SOIL?

(By Professor H. V. Tartar, of the Department of Chemistry, O. A. C.)

Oregon Agricultural College, Corvallis, Ore.—Recently numerous inquiries have come to the writer regarding the nature and the agricultural use of ground limestone. These inquiries have shown that some farmers of the state have obtained erroneous ideas regarding this material. It is with a view of correcting these mistaken ideas that this article has been written.

Limestone is a more or less impure form of carbonate of lime. Carbonate of lime is a chemical compound containing 40 per cent of calcium, 12 per cent of carbon and 48 per cent of oxygen. As it occurs in nature it is mixed with some impurities such as sand, iron, alumina, phosphates and often a considerable quantity of magnesium carbonate.

When this compound calcium is heated to bright redness it decomposes into two compounds known chemically as calcium oxid, a solid substance, and carbon dioxide, a gas. The commercial form of calcium oxide is ordinary "quick lime." It is really lime stone from which all the carbon and two-thirds of the oxygen present have been driven off in gaseous form by the aid of heat, the "quick lime' remaining being about 56 per cent of the original amount of limestone used.

When exposed to the moisture of the air or soil quicklime rapidly takes up water combining with it to form a chemical compound, calcium hydroxide, which is mere water slaked lime. This compound formed by the uniting of quick lime and water is the same whether the slaking takes place rapidly or slowly.

When air slaked lime is exposed in the air or soil, carbon dibxid (the same gas which is given off when quick lime is formed from limestone) is gradually absorbed and calcium carbonate is again formed. The thoroughly air slaked lime is exactly the same material as finely ground limestone. It is evident then that no matter whether we apply quick lime, water slaked lime, air slaked lime or ground lime stone, the benefit derived during the subsequent months or years is due to one compound, calcium carbonate.

Because of the fact that carbonate of lime is the final substance formed when quick lime or slaked lime are added to soil, it would seem advisable to use finely ground limestone (lime carbonate) in the beginning. The limestone is also cheaper because the cost of burning has been eliminated; its action on the organic matter of the soil is less caustic; it is more easily handled than quick lime or slaked lime. For these reasons finely ground limestone has come into considerable use in several of our eastern states.

Lime is an essential element of plant food for all higher plants. It seems to be especially necessary in the leaves and stems for the proper elaboration of starch. The total amount needed is small, varying for different plants, and the supply in the average soil is ample for those needs. Very rarely is it necessary to add lime to a soil simply to serve as plant food. For this reason lime has not been recognized as a normal fertilizer constituent, like nitrogen, phosphorus or potassium; it serves as an amendment or supplement to the soil mechanism.

The chief reason for applying limestone to soils is to correct or neutralize the free acids in the soil. In the decomposition and fermentation of the organic matter of the soil chemical changes take place which are accompanied by the formation of certain acids such as carbonic acid, nitric acid, and various organic acids. This formation of acids is analogous to the formation of lactic acid in the souring of milk, of acetic acid in vinegar from apple juice, and of the various acids in ensilage and sauerkraut. When there is no carbonate of lime present in the soil much of these acids usually remain in the free or uncombined state. Certain farm crops, such as clover, alsike, cow peas, soy beans and most valuable legumes do not thrive well on soils which contain much free acid. These crops can be often made to grow, it is true, on acid soils by liberal application of farm manure and other fertilizers but under these conditions the nitrogen gathering bacteria of such legumes do not multiply and develop as they should. The presence of acids is inimical to the action of the legume in taking up atmospheric nitrogen, one of the main functions of this kind of plants in soil improvement. When ground limestone is added to such soils it chemically reacts with the acidic substances present to form neutral and harmless compounds. It is to this neutralizing effect that ground limestone owes most of its beneficial effects on certain crops.

Again, in the decomposition of the organic matter of the soil chemical changes are brought about through certain bacteria, known as nitrifying bacteria, whereby insoluble organic nitrogen in farm manure and plant residues is transformed into soluble nitrate nitrogen, the form in which it is available to plants. This very valuable and necessary process of decay is hindered if the soil is acid. Therefore applications of limestone on acid soils may serve indirectly in making the humus of the soil of greatest value to growing crops. It is also evident that to obtain most profitable results with limestone there must be plenty of organic matter present.

Limestone also liberates certain necessary plant food elements in the soil from their insoluble combination. A large array of figures indicate that lime liberates potash from its more insoluble forms thereby making it more available for growing plants. Phosphorus may exist in the soil, mainly in three different combinations, namely, lime phosphates, iron phosphates and aluminum phosphate. The latter two forms are very insoluble so that phosphate in these soils is largely unavailable to plants. Lime phosphate on the other hand has its availability much increased by the carbonated water of the soil. Consequently by the use of lime which may change some of the iron and aluminum phosphates to lime phosphates the availability of phosphorus to plants is increased.

There are other and minor effects of limestone on soils which might be spoken of, but the space of this article does not afford the opportunity. Its main effects, however, have been pointed out in a brief way.

It might be said in conclusion that no extensive tests have been made of the use of ground limestone on acid soils in Oregon. In fact, it has been very difficult to obtain this material at a figure that would make it profitable to the former should its applications prove beneficial. Some of the fertilizer companies are now endeavoring to make arrangements whereby they can offer it for sale at a low figure. Certain eastern states, such as Ohio and Illinois, have found the use of limestone of value for the upbuilding of many of their soils. It seems that no general blanket recommendation can be made regarding its use. The safest rule seems to be the actual trial of the material on the soil itself, enough being added to neutralize all the acidity. From the results obtained in other states it would seem reasonable to expect that the use of ground limestone might be of value for use on the acid soils of this state.

FASHION HINTS

An easy to make and wonderfully pretty negligee is pictured here. It buttons over the shoulders, and the edges are scalloped.

A two-inch wide satin ribbon laces at the waist, falling in a long bow at the left side.

Exercise in the Open Air.

Any system of physical culture which does not include at least from two to four hours' gentle exercise a day in the open air, three square meals and nine hours of sleep is of the Evil One. So far as it passes itself off as a substitute for real exercise and fresh air, or encourages you to neglect these, it is a fraud and a failure. Practically nine-tenths of all the advertised systems must be put down in this class.—Woods Hutchinson in "Exercise and Health."

From His Own Experience.

A west end school teacher told a funny one the other day. The teacher was attempting to drill the class in the use of the word "felt." She expected some one of the children to say "The ice felt cold" or "The stove felt hot," or something of the sort. She was much discouraged when one little alien who had raised his hand to volunteer a sentence said: "I felt downstairs."—Boston Post.

Only Man Can Adapt Himself.

While men in all parts of the world make their homes in exceptionally hot or cold places and move from one to the other without any apparent physical discomfort, it is found that animals or plants which would flourish in one could not survive in the other.

Doing Away With Knot Holes.

To save the loss of box lumber because of knot holes a man in California has invented a machine to saw the holes out to a uniform size and cut plugs to be fitted into the holes.

Why He Stayed Away.

"It's been four years now," said the deserted woman, "since he left me and his happy home. I remember just as well as yesterday—how he stood at the door, holding it open till six flies got in the house."—Indianapolis Press.

Where Fools Are Plenty.

"Most people," says the Boarding-house Philosopher, "as soon as they are married and safely launched on the stream of life, begin to rock the boat."—Toledo Blade.