

BABY'S VOICE

Is the joy of the household, for without it no happiness can be complete. How sweet the picture of mother and babe, angels smile at and commend the thoughts and aspirations of the mother bending over the cradle. The ordeal through which the expectant mother must pass, however, is so full of danger and suffering that she looks forward to the hour when she shall feel the exquisite thrill of motherhood with indescribable dread and fear. Every woman should know that the danger, pain and horror of child-birth can be entirely avoided by the use of **Mother's Friend**, a scientific liniment for external use only, which toughens and renders pliable all the parts, and assists nature in its sublime work. By its aid thousands of women have passed this great crisis in perfect safety and without pain. Sold at \$1.00 per bottle by druggists. Our book of priceless value to all women sent free. Address **BRADFIELD REGULATOR CO., Atlanta, Ga.**

MOTHER'S FRIEND

Closing-Out Sale

OF

Trotting-Bred Horses

HAVING DECIDED TO DEVOTE MY ATTENTION TO MINING, I WILL ON SATURDAY, JUNE 4, AT THE OREGON FEED YARD, PENDLETON, ORE., OFFER FOR SALE AT PUBLIC AUCTION, THE FOLLOWING HORSES. TERMS CASH.

C. L. COX.

BELLE SPOTSWOOD — Bay mare (14) weight 1200, with est Alton B colt yet foaled in Umatilla county, by side, by Albicore, Rec. 2:27½ trotting, by Alwood, by Almont 33. Dam by Belle-founder.

Dam—Belle Morgan, a high-classed mare of Hamble' nian and Morgan breeding.

LITTLE MARGARET — Bay mare (11) weight 1100, with a fine Westfield colt by side, by Albicore; dam, Mag., by Tamillaine, a Lummux horse; 2d dam, a Morgan mare.

FITZ LEE — Bay gelding (6) weight 1250, by Westfield. Dam, Belle Spotswood; 2d dam Belle Morgan.

BAY GELDING (3) — Full brother to Fitz Lee.

BAY GELDING (3) AND BAY FILLY (2)—By Westfield. Dam, Little Margaret.

BAY FILLY (3) AND BAY COLT (2)—By Hassaloe, by Westfield; dam, Alta, by Almont.

Dam, Belle Westfield, by Westfield; 2d dam Belle Spotswood; 3d dam, Belle Morgan.

BAY COLT (1) — By Caution, by Electioneer.

Dam, Belle Westfield, by Westfield; 2d dam Belle Spotswood, by Albicore, by Almont 33; dam by Belle-founder; 3d dam Belle Morgan.

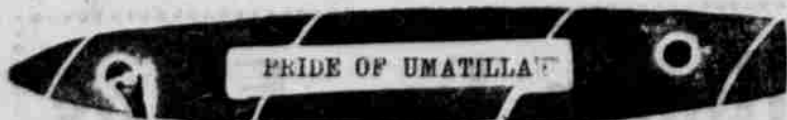
For the Summer Kitchen



We can supply gasoline and oil stoves. Cheaper than coal and more convenient; real comforts for hot weather. All sizes and prices from 75c to \$15.00.

W. J. Clarke & Co.
HARDWARE AND PLUMBING,
211 Court St.

Do You Enjoy a Good Smoke?



Try "Pendleton Boquet" and "Pride of Umatilla."
Made at home. **A. ROHDE, Maker**

Spare Ribs, Cold Boiled Ham, Sausage, Fresh Pigs' Feet, Pure Lard, Ham and Bacon and the choicest fresh meats in the city.

The Schwarz & Greulich Meat Co.

607 MAIN STREET. TELEPHONE MAIN 181.

For sale at the East Oregonian office—Large bundles of newspapers containing over 100 big papers, can be had for 25c a bundle.

FARMING SCIENCE

ADDRESS OF WITCOMBE TO FARMERS' INSTITUTE.

Practical Science Applied for the Conservation of Soil Energy—Prognosis of Difficulties Ahead of the Exclusive Wheat Farmer—What Can Be Done by Crop Rotation—Each Section of the State Has Problems Peculiar to It.

The following able address by Dr. James Withycombe, of the Oregon Agricultural college was read before the institute. Dr. Withycombe being unavoidably detained at Corvallis:

"Mr. Chairman, Ladies and Gentlemen:—This splendid co-operative effort of the Commercial Association of this city and the farmers of the community merits the approbation of every progressive citizen of this section of our commonwealth. The very fact of the interest elicited in the discussion of modern agriculture, augurs well for the future financial and social welfare of the farmers of this vicinity.

"It is a trite but true saying that all wealth comes from the soil, hence every citizen is either directly or indirectly interested in successful systems of agriculture. This body of farmers, who pride themselves on developing the banner wheat producing county of the state, would probably regard it as agricultural heresy if one were to say their method of farming is wrong.

"Nevertheless, if the present scientific knowledge of agriculture be tenable, this is true. While nature has generously endowed this county with a large area of phenomenally rich land, it lessens not the scientific fact that all land is susceptible to exhaustion.

"The general principles of agriculture are the same everywhere, but climate and soil variation demand different methods of husbandry. We often hear the expression that our farms are exhausted; it is doubtful if there is a single acre of agricultural land in the state that is really exhausted. It is true farms that were once productive no longer produce satisfactory crops, but this is due to physical changes rather than to the exhaustion of its plant food. There may be a want of nitrogen due to the lack of sufficient matter, but the great deficiency of our Western Oregon farms is the want of a proper soil texture.

"Land in that section, which during our pioneer agriculture produced from 35 to 40 bushels of wheat to the acre and in later years only 12 to 15 bushels, is now yielding from two to four tons of clover or vetch hay per acre, and after a few of these crops will again produce 35 and 40 bushels of wheat per acre. The cause of this is that the growing of these crops increases the vegetable matter in the soil and thereby improves its texture, thus making the land very much more productive, as well as making it more easily worked.

"It is probably not an exaggerated statement when we say that faulty methods of farming in Western Oregon have been responsible for a loss of nitrogen that exceeds in value all the wheat shipped from the farms in this section.

"A well-worked summer fallow on land liberally supplied with vegetable matter, will cause the oxidation of sufficient humus to develop enough nitrates to supply four crops of 40 bushels of wheat per acre. As a matter of fact, only enough of this for the needs of the growing crop is utilized, the balance is lost in the drainage water.

"In this section, where the rainfall is not sufficient to cause leaching of the soil, the valuable nitrates formed as a result of a summer fallow are not lost, but remain in the soil for a succeeding crop. There is a remote danger that this system of farming may, in time, produce an excess of nitrates, which may prove injurious to the growing crops, but the chances are that denitrification will take place and thus transform the nitrates into a harmless substance.

"Although the valuable nitrates are not lost as they often are in the more humid sections of our state, still there are much graver agricultural problems confronting the exclusive grain-grower in this section than there are confronting the farmer of our more humid sections.

"In the latter, conditions are favorable for a very wide range of plant growth, especially the leguminous type, which have the power through micro-organic assistance of appropriating atmospheric nitrogen of which there is an inexhaustible supply, being approximately 75 million pounds per acre. Thus it will be readily seen that the remedy for correcting the soils in humid districts is easily obtained. Unfortunately in this section the range plant growth, particularly of the leguminous class, seems at present to be somewhat narrow.

"The systems of grain farming practiced here at present, have some features to commend them, but their ultimate tendency is simply to court disaster. The stereotyped summer fallow may enrich the father, but will most assuredly impoverish the son.

"True, the summer fallow conserves moisture and subdues weeds, but it adds nothing to the soil. It is not the depletive effect of the summer fallow we should deplore, but the undesirable change it is constantly bringing about in the physical condition of the soil. In the heavy clays they are becoming steadily harder to work, and in the volcanic ashly soil, of which you have a large area, it is becoming steadily less adhesive and shifts from the action of the wind more easily, as well as being less capable of retaining moisture.

"This last condition is perhaps the most serious of all. When the soil is

deprived of its vegetable matter, which the bare summer fallow does to an alarming extent, it then suffers a serious deterioration of its water-bearing qualities.

"A soil well supplied with organic matter will carry a much larger percentage of capillary moisture than a soil poorly supplied with this substance. Hence the most important problem for the perpetuity of successful agriculture here rests on the ability of the farmer to keep his land well supplied with humus. There are agricultural sections in this part of the state which are probably producing wheat successfully with a lower moisture condition than wheat is grown in any other agricultural district in the world. This is perhaps almost wholly due to the favorable physical condition of the soil.

"Adversely change this condition, which the present system of bare fallow will inevitably do, and these desirable farms are liable to be transformed into barren wastes. On the other hand, if the farmers will take the precaution to keep these soils supplied with a proper amount of organic matter, they can be successfully farmed for an indefinite period of time. These soils are very rich in plant food and under rational systems of husbandry are practically inexhaustible.

"It is comparatively an easy task to point out the probable faults of your present systems of farming, but to suggest a remedy for these apparent faults is a most difficult problem. The dominant factor in successful husbandry here is the maintenance of a desirable percentage of humus in the soil, but how this is best obtained is liable to prove to be a perplexing problem for the farmer to satisfactorily solve.

"It is not a question of soil exhaustion, but of soil moisture. These rich deep soils of volcanic origin should remain productive for ages and they will if properly handled. Soils may be ever so rich, but without moisture crops cannot be successfully grown.

"The first indication of approaching disaster as the results of the depletion of organic matter will be crop failures during dry seasons. These failures will become more frequent as the per cent of vegetable matter in the soil becomes lowered until to such an extent as to render agricultural pursuits unremunerative.

"It is usually easier to retain the horse by locking the stable door than it is to gain him after he is stolen. Just so with the farm; it is much easier to maintain a desirable percentage of humus in the soil now than it will be to replace it again when once the soil is exhausted of this substance.

"There are two general systems can be followed for replenishing the soil with vegetable matter, viz.: Plowing green crops under, or what is perhaps better, feeding a goodly portion of the crude product of the farm to domestic livestock. In this way a very large proportion of the vegetable matter and other valuable fertilizing materials are returned to the soil. The farmer should not forget the fact that the plant food in his soil is his capital, hence any system of farming that will unnecessarily exhaust this should be carefully avoided.

"Perhaps a few comparisons as to the effect of different systems of farming on the fertility of the soil may not be amiss. If the farmer were engaged in dairying and sold only the butter fat, a ton of this would be worth from \$350 to \$600, and the value of the plant food in this ton of butter fat would be less than 50 cents. While a ton of wheat worth, say \$25, would contain plant food to the value of \$7.50. A ton of dressed beef, worth approximately \$140, would contain \$11.75 worth of plant food; a ton of hogs, worth \$110 would have \$7.25 worth of plant food; a ton of mutton sheep, worth about \$80 would contain \$8.15 of plant food.

"This plant food consists of nitrogen, phosphoric acid and potash, and the estimates are based on their commercial value in the open market. These figures strikingly illustrate the value of livestock in maintaining the fertility of the farm.

"The Spanish proverb, 'The sheep's hoof is golden,' evidently refers to the rejuvenating influence on the soil from pasturing this class of stock. These figures also show why the cow fattens the land. Wherever conditions will permit of successful dairying increased crop production quickly follows. The fertilizing material in the feed consumed by the cow is practically all returned to the soil. This is also largely the case with all classes of domestic livestock. It is doubtful if the productivity of any agricultural section can be maintained for any considerable period without the aid of livestock.

"Even this county which, perhaps, can boast of as good wheat land as can be found in the world, has a limit to its endurance. The production of more beef, pork and mutton on the wheat farms of this county means the greater prosperity in wheat production.

"There is no agricultural country that can withstand the evils of exclusive grain growing for any great period of time. The rich valleys of the Nile have frequently been given as examples to disprove this, but even in those phenomenally rich valleys the farmers have been compelled to resort to systems of crop rotation.

"It was thought for a long time that sediment resulting from the annual inundations of these valleys was the source of perpetual rejuvenation of the soil, but agricultural experts who have recently investigated the matter declare that the sediment is a rather unimportant factor, but that the growing of burseem, a variety of annual clover, has been the real source of maintenance of the fertility of the soil.

"That the farmers of this section must sooner or later be confronted with agricultural problems which will be difficult to solve is quite probable. As before stated, the problem will not



A prominent club woman, Mrs. D. A. Pinkham, of St. Joseph, Mich., tells how she was cured of falling of the womb and its accompanying pains and misery by Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM:—Life looks dark indeed when a woman feels that her strength is fading away and she has no hopes of being restored. Such was my feeling a few months ago when I was advised that my poor health was caused by prolapsus or falling of the womb. The words sounded like a knell to me, I felt that my life was set; but Lydia E. Pinkham's Vegetable Compound came to my aid; it restored the lost forces and built me up to good health returned to me. For four months I took the Compound daily and each dose added health and strength. I am so glad the help I obtained through its use."—Mrs. FLORENCE LANE, 1007 Miles Ave., St. Joseph, Mich.

A medicine that has restored so many women to health can produce proof of the fact must be regarded with respect. It is the record of Lydia E. Pinkham's Vegetable Compound, cannot be equalled by any other medicine the world has ever produced. Here is another case:—

"DEAR MRS. PINKHAM:—For years I was troubled with falling of the womb, and painful menstruation, leucorrhoea, backache, headache, fainting spells, and stomach trouble. I doctored for about five years but not seem to improve. I began the use of Lydia E. Pinkham's Vegetable Compound, three of Blood Purifier, and also Sanative Wash and Liver Pills, and I am enjoying good health, and have gained 25 lbs. I thank you very much for what you have done for me, and heartily recommend your medicine to all women."—Miss EMMA SYLVESTER, Center St., Marion, Ohio.

"FREE MEDICAL ADVICE TO WOMEN." Women would save time and much sickness if they write to Mrs. Pinkham for advice as soon as any distressing symptoms appear. It is free, and has put thousands of women on the right road to recovery.

Mrs. Pinkham never violates the confidence thus entrusted to her, and although she publishes thousands of testimonials from women who have been benefited by her advice and medicine, never in all her experience has she published such a letter of the full consent, and often by special request of the writer.

\$5000 FORFEIT if we cannot forthwith produce the original letters and above testimonials, which will prove their absolute genuineness. Lydia E. Pinkham Medicine Co., Lynn, Mass.

be one of soil exhaustion, but rather an undesirable physical change thus lessening the water-bearing qualities of the soil. The remedy for this is the growing of humus-forming crops in connection with the cereals.

"There are two general methods for this—one by plowing under green crops and the other is the keeping of livestock on the farm, to which is fed a large proportion of the crude products and the waste material returned to the land. In this way the proper amount of organic matter can be maintained in the soil.

"The question arises, what system of rotation is practicable in this section? This will have to be largely determined by direct experimentation. Unfortunately, the range of forage plants suitable to the climatic and soil conditions found here is somewhat narrow. There are, however, two valuable leguminous forage plants that will undoubtedly flourish here, alfalfa and the common field pea. Both of these are excellent feed for stock and valuable for their humus-supplying qualities.

"It is generally conceded that alfalfa will grow without irrigation wherever wheat will grow. If this be so, then there is no question but what thoroughly feasible systems of crop rotation can be adopted. The most desirable plan of rotation will be a process of evolution resulting from the careful trials of various systems. Perhaps a good system will consist of seeding a portion of the farm for four or five years to alfalfa then break it up and sow wheat for two years, then a cultivated crop such as corn, then two crops of grain and seed down to alfalfa again.

"In the most successful agricultural districts no two cereal crops are allowed to follow each other, but this system may scarcely be practical here for the present. Another good rotation would be a crop of peas every second or third year. The peas could be pastured with hogs and the stubble plowed under, which would supply a considerable amount of organic matter to the soil. The growing of either of these crops as an occasional rotation would maintain the soil in good condition for wheat production almost indefinitely.

"In seeding land to alfalfa for the first time much valuable time is often saved if the land be first inoculated or the seed treated before seeding.

Mexico's Railway Mitigation. The message of the president of the republic states that the mitigation of the railway system of Mexico now comprises 10,078 miles.—Edward J. Key, vice and deputy consul general, Mexico City, Mexico, April 6, 1904.