HOME COURSE IN SCIENTIFIC AGRICULTURE

FOURTH ARTICLE_TYPE OF MODEL FARMING.

By W. J. SPILLMAN, Agriculturist In Charge of Farm Management, Bureau of Plant Industry, Department of Agriculture.

ARE method of management on a Ofteen acre farm that raises all the roughage for thirty head of stock, seventeen of which are cows in milk, cannot fall to be of litterest to farmers in all parts of the country. The farm in question is situated in southeastern Pennsylvaula, near a large city. About thirteen acres are in cultivation, the remaining two acres being occupied by buildings, yard, etc. This farm was purchased to 1881 with a mortgage of \$7,200 upon For the first year the farm lacked
 of paying expenses. During the

next six years the mortgage was paid.

The soil of the farm is a reddish, somewhat gravelly clay. It was so run down in 1881 that it did not support the two cows and one home kept upon it. It has been brought up to its present remarkable state of fertility by the use of stable manure appiled directly from the barn as it was produced. The system of landling maours is such that not an ounce is lost, either Budd or solid. No commercial fortilizers have ever been used, and no manure has been hauled from the city. The crops are ardinartly all fed and are thus largely returned to the hind in the manure. Of course needs within hie fertilizer is added to the farm an-



MILKING AT THE MODEL PARM.

nually from the rich mill products fed the cows. The roughage is all raised on the farm, but all the grain is bought.

The owner, a minister with no pre-vious experience in farming, has read whatever agricultural literature has been available. The writer has never seen a farm on which system is more pronounced a feature. A peculiar feaof the prin ipal operations is performed on a fixed day each succeeding year or as near to it as the weather will per-The farm is more nearly independent of the weather than any other soil the writer has ever seen

The farm is strictly a dairy farm, the only products regularly sold being milk and a few head of young cattle each year. The cows are mainly registered Jerseys, not only pure bred, but well bred. Scrupulous cleanliness is observed.

One man and a boy do the labor of the farm, except in hay harvest and during the cutting of sliage, but these have all they can do. On a farm of this size, with high priced land, pastures are out of the question. There is not even a barn lot. The thirty head of stock remain in the barn the year

The writer has never seen a thriftier. better kept herd of cows. They are fed balanced rations every day in the year. Every feed consists of three parts. A portion of it is some succulent material-silage in winter and rye, timothy and clover, corn, pens and onts or some other green crop in sum mer. A second portion consists of dry hay or fodder. This is used to give the manure proper consistency and adds much to the convenience of caring for the cows. A third portion consists of mill products, of which three kinds are used-bran, olimest and gluten. The proportion of concentrates fed depends on the condition of the cow and is regulated by the flow of milk and the manure consistency.

The solling crops used are as lows; Green rye, beginning about May I and continuing about four weeks or until the rye is ready to cut for bay then timethy and clover are fed till peas and oats are ready. When the latter is cut for bay the silo is opened (about July 4), and silage is fed till early corn (planted May 8) is ready. Enough of this is planted (about one fourth acre) to last till late corn (planted about June 22; is ready. Late corn is then fed till it is time to put it in the silo. From this time forward silage is fed daily till green rye is available in the spring. No abrupt

change is ever made. These carefully kept cows are given

four ounces of sait each, daily, mixed with their feed. The cows are fed three times a day, and the sait is divided among the three feeds. Fine ta-ble sait is invariably used.

Every particle of roughinge fed on this farm, including bay and all soiling crops, is cut in quarter inch lengths. Even the bedding is cut thus.

There are two round siles on the farm, each ten feet in diameter and thirty-four feet high. These together hold about 100 tons of sliage, and this quantity of corn slinge is produced on four acres, planted about June 22. Eleven men, three teams and a traction engine to run the cutter are employed in filling the silos.

There is no systematic rotation of crops on this farm. It is not necessary since every foot of land receives an abundance of manure every year or two. Every green crop grown on the place is utilized for solling purposes, more or less, the surplus being con-verted into bay or slings. The crops grown are rye, timothy and clover, corn, pens and outs and millet. At least two crops a year are harvested from most of the fields. The grass crop is a mixture, the seed sown being follows: Red clover, six quarts; timothy, five quarts; alsike, two and one-half pounds; redtop, one pound. The farm is divided into twelve small parcels, varying in size from one-fourth acre to two and one-quarter acres. In April, 1966, six of these (five or six acres in all) were in grass. About buil of this was sown the last week in August, 1900, one-fourth in 1901 and one-fourth in 1902. That own in 1990 was cut once for hay in the spring of 1903 and then plowed for late corn. The crops which preceded these plats of gross were in two cases rye, grown the preceding

When this was cut for solling or for hay the ground was plowed and har rowed into fine tith. One and a half hashels per acre of German millet were then sown. This was cut for hay before it had made seed. The land was plowed again and harrowed into fine tilth. Gross seed was then sown broadeast late in August. Sowing thus early, using no name crop, gives a full crop the next year. In fact, because of the farm's fertillty, three large crops are cut the next year after sowing grass in August, Two cuttings are made the second year. In the spring of the third season, if the crop promises to be abundant, a crop of hay is taken before breaking up the soil for late corn. If the grass crop is scanty the sod is broken earlier for any crop for which it may be needed. The sod is always heavily top dressed during the winter before it is broken up.

Some of the fields are kept in rye in winter and corn to summer indefinitely. Hve is sown broadcast at the rate of two bushels per acre, the seed being covered by a spring tooth harrow. The hay made from this rye is readily eaten by the stock, but a part of it is used for bedding. Three of the twelve sub-divisions of the farm are thus devoted regularly to rye in winter an late corn in summer. Oats and peas are sometimes sown in early spring on land sown in rye the previous fall, the rye being turned under in spring. Some times a piece of corn land is left bare during the winter and sown to oats and peas the next spring. Grass is occasionally sown on land from which solling corn has been cut. One small field was devoted to oats and peas for several years and then put down in grass, to be followed by corn. Outs and peas do not fit very well into the cropping systems followed on any of these small fields. They must be sown in early spring and are off early in July, yet they yield so much nutritious hay or solling material that a small area is usually grown.

The method of handling manure on

this farm can be used only on farms on which stock is kept in stalls. Behind each row of cows is a gutter eighteen inches wide and seven inches deep. These gutters have no outlets. They are thoroughly cleaned daily. (The whole barn is disinfected twice a week, and the interior is frequently whitewashed.) When cleaned the gut ters are sprinkled with ashes or dry dirt to absorb what moisture may be present. During the day a quantity of absorbent, consisting of leaf mold, rotten sod, etc., is placed in them. Each gutter ends near a door. The manure is lifted from the gutter into a cart backed up to the door. The end of the gutter next the door is slightly lower than the other end. One man lifts the manure with a fork and places it in the lower end of the trench. A second man then lifts it into the cart. In this manner the liquid manure is all got into the cart. Finally the fragments that remain in the trench are swept to the lower end and removed. The cart goes immediately to the field, and the manure is spread at once. In summer it is spread on the land from which the solling crops are removed. In winter it is spread on the rye and grass fields, on the latter particularly when the ground is too soft to place it upon the rye fields. No manure is used on newly seeded grass lands, but the second and third year grass fields are top dressed in

Since this account was first presented in 1903 marked economic changes have occurred, which, if this farm were still in operation as it was then, would materially affect the profit obtained. Most of these changes relate to the price of concentrated feeding stuffs. The writer is of opinion that under present conditions this farm is smaller than a dairy farm ought to be, especially before the land has been made exceedingly fertile. It is now very desirable to have the dairy farm large enough to permit growing at least a part of the concentrated feed used, and the larger the proportion of this class of feed grown the better.

UTILIZATION OF SAWDUST.

to Heat and Light City From Refuse of Lumber Mills.

Following the report of the committee appointed by the Vancouver city council to investigate the smoke and sawdust nuisance caused by burning refuse from the various sawmills of the city, which it was claimed allowed much fine sawdust and soot to escape in the air, an application has been made to the city by a company com posed of about ten prominent mill owners for a franchise to sell steam heat and electric light and power.

The company's intention is to utiliize the sawdust and refuse for fuel by installing plants at the mills, the idea being to use the different plants as substations instead of establishing a central power plant, thus avoiding the hauling expense. This will not only minimize the risk of accident to the plant, interfering with the regular supply, but will also, in furnishing steam bent, enable the company to supply it over a wide area with much lower pressure than if furnished from a central plant. It is intended to also establish at each mill an auxiliary oil burning apparatus to be used should the refuse pile run low.

It is thought that heat, light and power can be furnished by this system at a far lower rate than is charged by the present power company operating in the city. In making the application an option to purchase is given to the city should it desire to take the entire supply of the plant within a reason able time.

With coal at \$7.50 per ton, retall, the question of disposing the waste from sawmills in Vancouver at an expense In addition to its loss, has bethered the lumbermen for years, and it is hoped that this scheme will prove feasible and profitable.

In furnishing steam best it is pro-posed to use the exhaust steam. It is thought that it can be supplied at about 60 cents per 1,000 feet," the measurement being the flow of water from the condensed steam running into the simplex meter, consisting of a set of two cups, one filling and in dropping raising the other and thus automatically registering the flow.

The engineer of this proposed company estimates the amount of sawdust and refuse burned annually by these mills as equivalent to 114,000 cords. The approximate cost of installlog a sawdust burner is \$30,000 and annual expense of operating it about \$5,000.—Consular Reports.

WOODEN CORN SHELLER.

Homemade Contrivance That Is Simple and Effective.

Where there is but a small quantity of corn to be shelled a sheller can be made of a few scraps of wood usually found on a farm, says Popular Mechanics. A block of wood having a sloping notch cut from one end is mounted on three legs as shown. The



HOMEMADE CORN SHELLER.

notched part as well as the lever is thickly filled with spikes driven in so that their heads protrude about half an inch.

The ear of corn is placed in the notched part and the lever pressed down. Two or three strokes of the lever will remove all the karnels from the cob. A box is provided and con-veniently located on one leg to catch the shelled corn.

To Model Ships After Bats. The new system of preventing col-lisions at sea proposed by Sir Hiram Maxim is based on a theory of the bat's sixth sense. A century ago Abbe Spallanzani proved that bats could pursue and catch insects without seeing them. The vibration or waves from n bat's wings, though of too low frequency to produce sound, are reflected back from obstacles they strike, and it is supposed that the bat is able to detect the reflection and thus to guide its flight. Soundings for similar echoes could be made on shipboard. With a wave generator of 200 or 300 horse power, vibrations could be sent out of about the same frequency as those of a bat and it is believed that they would be reflected from five miles away sufficlently strong to be detected. A trial apparatus has been made by Sir Hi-

Lightning Strokes Investigated. The results of an exhaustive investi gation of lightning strokes in the Unit ed States by the department of agri-culture disposes of the notion that certain kinds of trees are immune from these strokes. It asserts that any kind of tree is likely to be struck by lightning. It shows that the Colorado plateau has more strokes than any other section.

Stretching Tight Fitting Shoes,

A tight fitting shoe can be stretched by filling it tightly with oats dampen ed in water and packing some old pa-per in the top. The grain will quickly swell, and, as the leather will get sof-tened by the dampness, the shoe will be rapidly stretched. Allow time for the oats to dry before removing them.

I have three sworn enemies

and the man who craves rough, strong, high-proof whiskey.

W. J. Van Schuyver & Co., General Agents Portland, Oregon



Always ready for use. Always Reliable. When you buy demand the the "Woodlark" Brand. Squirrels like it and a single kernel kills. ononical poison made. Hundreds have been killed with the consultated poison by not wait until too into to kill the pests. Use when natural food is scarce and before the young are born for suits. Money back if you're not satisfied. At your Dealer's CLARKE, WOODWARD DRUG CO., PORTLAND, ORE.

Express and Passenger Stage Line

Three hours between Redmond and Princville, fare \$1.50.
Agent for Nortebru, Gt. Northern and American Express Co.
Office open from 7 a. in to 6 p. m.; Sunday 9 to 1:30.
Office at Pioneer Cream co.

Jourdan & Son

Just Opened:

.12-19

Livery Feed and Sale Stable

In Cornett Stage Barn

Prineville, Oregon

Special attention given to the traveling Public. Hay 25c a day per head. Give us a call.

White & Mackey, Props.

Shingles, Mouldings, Windows, Doors, Glasses, Etc. Etc., Etc.

SHIPP & PERRY

PRINEVILLE, OREGON

THE HAMILTON STABLES

J. H. WIGLE, Proprietor PRINEVILLE, OREGON

Stock boarded by the day, week or month at Reasonable rates. Remember us when in Prineville. RATES REASONABLE. We have

Fine Livery Rigs For Rent

Call for Warrants.

Notice is hereby given that all general fund warrants up to and including Reg. No. 983. Also all registered High School warrants will be paid upon presentation at my office. Interest stops after this date, May 6, 1913.

R. L. JORDAN,
County treasurer, Crook county, Ore.

Stray Horse.

I have at my placebay colt, about 2 years old; hind feet white; halter on; branded IO on right hip. Owner can have same by paying all expenses. Horse is all cut up in wire fence and can not be moved for awhile. A. RIMPLER, Dry creek, 5-8 3p ville, Oregon.

April 1, 1913. R. L. JORDAN, O. G. ADAMS.
S. W. YANGEY.

Seed Wheat for Sale.

Early Walbur. D. P. ADAMSON, Prine-ville, Oregon.

Notice of Dissolution of Partner-

ship.

ship.

Notice is hereby given that the firm of R. L., Jordan & Co. is dissolved by mutual consent, R. L., Jordan taking the dry goods and furnishings and O. G. Adams and S. W. Yancey taking the groceries, hardware and implements. Ail accounts pavable as per notice.

April 1, 1913. R. L. JORDAN, O. G. ADAMS, S. W. YANCEY.

Summons

In the circuit court of the state of Oregon for the county of Crook. Amanda Thornbury, plaintiff,

Amanda Thornbury, plaintill,

vs.

Moses H. Bryans and Relia B.
Bryans, C. W. Michael and Nora
Michael, D. R. Amadon and Mary J.

Amadon, Frank Callahan and Clara
E. Callahan, E. J. Chingren and—
Chingren, defendants.

To Frank Callahan, Clara E. Callahan, E. J. Chringren and—Chringren, defendants.

In the name of the state of Oregon, you and each of you are hereby required to appear and answer the complaint filed against you in the above emitted suit on or before the 21st day of June, 1913, said date being six weeks efter the date of the first publication of this summons.

Zist day of June, 1913, said date being six weeks after the date of the first publication of this summons. If you fail to appear and answer the plaintiff will apply to the court for the relief prayed for in her complaint filed herein, which relief is for judgment against defendants, Moses H. Bryans and Relia B. Bryans, C. W. Michael, D. R. Amadon, Frank Callahan and E. J. Chingren, for the sum of Eight Hundred (\$500.00) Dollars and interest thereon from July 1, 1911, at ten (10) per cent per annum and for One Hundred (\$100.00) Dollars and interest thereon from July 1, 1911, at ten (10) per cent per annum and for One Hundred (\$100.00) Dollars autorney's fees and for her costs and disbursements herein and for a decree foreclosing a certain mortgage made and executed by the defendants, Moses H. Bryans and Relia B. Bryans to the plaintiff herein upon the south haif of the northwest quarter and the north haif of the southwest quarter of section two (2), township fourteen (14) south, range fourteen (14) east, W. M., to satisfy said judgment and forever bar and foreclose each and all of the defendants herein of all right, title and interest in and to said premises and that plaintiff have such other and further relief as to the court may seem proper.

said premises and that plaintiff have such other and further relief as to the court may seem proper.

This summons is served upon you by publication thereof by order of the Honorable W. I., Bradshaw, judge of the above entified cause, made on the 5th day of May, 1913, requiring the publication of this summons to be made at least once a week for six consecutive weeks in crook County Journal and requiring that the first publication be made on the 5th day of May, 1913.

HEXTINGTON & WILSON, 5.8

Autorneys for plaintiff.

Notice for Publication.

Notice for Publication.

Department of the Interior,
U. S. Land Office at The Dailes. Ore.
May 5th, 1913.

Notice is hereby given that
Lee M. Dealy
of Alfalfa, Oregon, who on December
10th, 1907, made homestead No. 15812
Seriai No. 04270 for wij swij, sei swij,
section 33, township 18 south, range
16 east, and lot 3, section 4, township
19 south, range 16 east, Willamette
Meridian, has filed notice of intention to make final five-year proof to
establish claim to the land above
described before the county clerk at
his office at Prineville, Oregon, on
the 17th day of June, 1913.

Claimant names as witnesses:
George Millican; James T. Moffitt,
Thurman Moffitt, all of Prineville,
Oregon, and George W. Jones of
Bend, Oregon.

Oregon, and George.
Bend, Oregon.
C. W. Moore, Register.

Notice for Publication
Department of the Interior
U.S.Land Office at The Dalles, Oregon
April 15th, 1913.
Notice is hereby given that
Eliza A. Dunham,
of Prineville, Oregon, who on May
20th, 1910, made Desert Land Entry
No. 06892, for si nwi, and wi swi,
Section 22, Township 16 South, Range
20 East, Willamette Meridian, has
filed notice of intention to make
Final Proof, to establish claim to the
land above described, before Timothy E. J. Duffy, U.S. Commissioner
at his office, at Prineville, Oregon, on
the 3rd day of June, 1913.
Claimaint names as witnesses
Lloyd F. Wiltse, Reuben Booten,
and Harvey D. Dunham, of Post,
Oregon, and Parker B. Doak, of
Prineville, Oregon.
4.24-pd C. W. Moore, Register
Notice for Publication

Notice for Publication

Notice for Publication
Department of the Interior.
U.S.Land Office at The Dalles, Oregon,
April 21st, 1913,
Notice is hereby given that
Charles A. Weaver,
of Princeville, Oregon, who, on April
1st, 1909, and March 4, 1911. made
Homestead, No. 04703 and additional
No. 08250, for swif set, Sec. 3, nwi nei,
ni nwi, Sc. 10, sei nei, si nwi, swi
nei, Section 10, Township 18 South,
Range 16 East, Williamette Meridian,
has filed notice of intention to make
Final three year Proof, to establishclaim to the land above described, before Timothy E. J. Duffy, U. S. Com-

claim to the land above described, be-fore Timothy E. J. Duffy, U. S. Com-missioner, at his office at Prineville, Oregon, on the 5th day of June, 1913. Claimant names as witnesses: Joa-quin Gerardo, David Weaver, Earl Forest, Charles Goodknight, all of Prineville, Oregon. 4.24 C. W. Moore, Register.

Notice to Creditors.

Notice to Creditors.

Notice is hereby given, by the undersigned, the administrator with the will annexed of the estate of George M. Stanclift, deceased, to all creditors of said deceased and to all persons having claims against said estate to present the same with the proper vouchers, to the undersigned at his office in Princylle, Oregon, within six months from the date of the first publication of this notice. Dated this 24th day of April, 1913.

M. R. Elliott,
Administrator with the will annexed of the estate of George M. Stanclift, deceased

Notice for Publication

Notice for Publication
Department of the Interior
U.S.Land Office at The Dalles, Oregon
April 12th, 1913.
Notice is hereby given that Charles
A. Wall, of Roberts, Oregon, who, on
March 16th, 1911, made Homestead,
No. 08349, for swi swi Sec. 23 and
wi nwi, nwi swi, Section 26, Township 17 South, of Range 16 East, Willamette Meridian, has filed notice of
Intention to make final commutaintention to make final commutation Proof, to establish claim to the land above described, before Timothy E. J. Duffy, U. S. Commissioner, at his office at Prineville, Oregon, on the 24th day of May, 1913.

Cialmant names as witnesses: Al

Claimant names as witnesses: Al-bin Peterson, George W. Crawford, of Prineville, Oregon, Claude C. Dunham, Bernard Gasch, of Roberts, Oregon. 4-17-pd. C. W. MOORE, Register