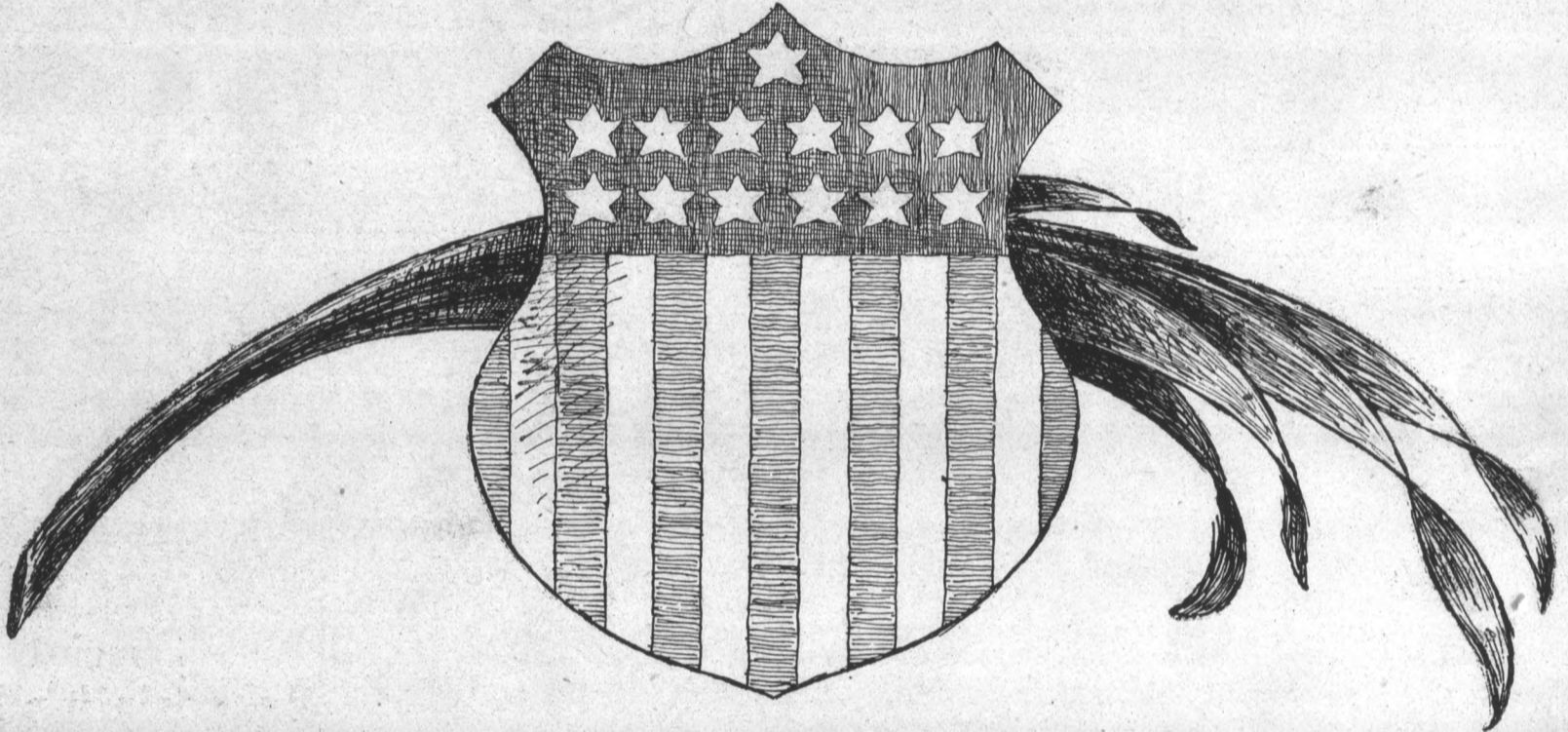


MICHIGAN FARMER

DECORATION DAY
1917



AMERICA THIS DAY PAUSES TO GIVE AGAIN A PALM
OF VICTORY AND CHERISHED MEMORY TO HER
HEROIC DEFENDERS OF THE PAST.



The Michigan Farmer

Established 1883.

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DETROIT, MAY 26, 1917



CURRENT COMMENT.

Since the declaration of war with Germany the United States government, through the medium of the Department of Agriculture, has emphasized, through every agency at its command, the importance of an adequate food supply as the first essential factor in an early and satisfactory termination of the war. The agricultural press is one of the principal agencies through which this food preparedness campaign has been pushed, and the Michigan Farmer has undertaken to "Do its Bit," in this patriotic campaign to the best of its ability, to the end that an adequate food supply for the nation and its allies may be insured.

As a means of reaching a still greater number of Michigan farmers in this campaign, this issue is being mailed to a considerable number of former subscribers who have permitted their subscriptions to lapse. The first essential of enlistment in the food preparedness campaign, which is every farmer's plain duty in the present emergency, is farm preparedness, which includes the broadest possible knowledge of the conditions which have made this campaign necessary and the most advanced ideas on its prosecution. To be of the greatest value, this information and these ideas must be especially applicable to the local farm conditions, for which reason a weekly farm trade paper published in the state, especially for the farmers of Michigan, is many times as valuable as an aid to farm preparedness as an agricultural paper of national circulation, or one published at less frequent intervals.

With these facts and conditions in mind we have decided to make both old and new subscribers the exceptionally liberal subscription offer which appears on this page. This price does not cover the cost of the white paper for printing and postage for mailing the paper to the subscriber. We are making it at this time solely as a means of increasing the value and influence of the Michigan Farmer in the present emergency, when it should prove doubly valuable to every subscriber. Those who take advantage of

this offer will be entitled to the full measure of personal service in the solution of individual problems which is extended to every member of the Michigan Farmer family. Help the national campaign for food preparedness and increase the measure of your own farm preparedness by subscribing now.

Minimum Prices by Contract. Apropos of the discussion relating to the fixing of minimum prices on farm products by the federal government, some significant developments have occurred in Michigan which are at once an assurance that Michigan farmers will receive compensatory prices for their products next fall and that any minimum price which may be fixed by the federal government will be fair to the producers as measured by private contracts already entered into by Michigan producers.

The latest development along this line occurred at the meeting of the State Food Preparedness Committee last week. At this meeting State Market Director McBride submitted a plan for the establishment of minimum prices in Michigan by contract. Under this plan definite contracts would be made between farmers and business or civic organizations of cities for definite amounts of food stuffs at a definite price. The tentative prices included in the plan, carload freight paid to Michigan common points, were as follows: Potatoes, \$1 per bushel; beans, \$6 per bushel; corn (shelled), \$1.25 per bushel; cabbage, one-half cent per pound; carrots, one cent per pound; rutabagas, one cent per pound. The plan received commendation from the committee and the markets office was asked to look after the details of putting same into effect. Incidentally Mr. Prudden, of the Food Preparedness Committee, started the movement by placing a tentative order for 50,000 bushels of potatoes (about eighty carloads), at the suggested price. At the first food preparedness conference called by Governor Sleeper, President Orr of the Michigan Bean Jobbers' Association, also a member of the food committee, showed his faith in the future of the bean market by entering into contract with a prominent Gratiot county farmer for the product of a large acreage of beans at \$6 a bushel.

These initial contracts promise much for the success of the plan of establishing minimum prices by contract in Michigan. Farmers who are interested in this plan should address the State Director of Markets, at East Lansing, or apply to the county agent in their county for further information and details concerning it. The willingness of farmers to enter into contracts for the delivery of specific amounts of food stuffs at these suggested prices, and the willingness of business or other organizations or individuals in consuming centers to contract for them, will determine the ultimate success of the plan for the distribution of Michigan farm products on a large scale. In any event the advancement of the plan will have a most beneficial effect on the crystallization of public sentiment as to the proper level of minimum prices for farm products in the present emergency. At the same time the suggested prices should indicate a probable minimum which should go far in stimulating production on Michigan farms.

Government Food Control. Herbert C. Hoover, former head of relief work in Belgium, has been appointed by President Wilson as food commissioner for the United States, until the close of the war, and Congress will be asked to clothe him with large powers in the administration of food control. Mr. Hoover has had practical experience in his previous field of work, and wide opportunity for first-hand observation of food control meth-

ods in European countries which will prove invaluable in the administration of his newly created office. He will serve without pay and with volunteer assistants. His initial statement as to his views of food control measures is most reassuring to all concerned except the professional speculator in food stuffs. As to the desirable ends to be accomplished by regulation, after commenting on recent speculative price disturbances, he says:

"It is necessary for us to devise with the best thought of this country temporary balance wheels by which we can establish stability of price in the great staples, bearing in mind always that we must maintain a price that will stimulate production by assuring good returns to the producer and at the same time will diminish the cost of living lest we face social readjustments, and strike disturbances with consequent loss of national efficiency."

As a means to the end of bringing about these desirable results, Mr. Hoover appeals to the patriotism of the men and women of the country for their support in the administration of food control, and especially in the elimination of waste. Producers and distributors are reassured by the statement that while broad powers are essential to adequate food control such control will be administered so far as possible through the regular channels of distribution, and with the aid of separate executive bodies constituted of the leaders of the country, producers, distributors, bankers and consumers alike. Mr. Hoover closes his statement by disclaiming any inclination to become a food dictator and announcing his ambition to help the people to solve their own problems. In this effort he is entitled to the co-operation of every patriotic person in the country.

Gas Plants on Farms. On another page of this issue appears a tabulation of the experiences of thirty farmers who have during the past years added acetylene gas plants to their farm home equipment. Many of these farmers had had their plants installed for five years and more, the total aggregate use represented by all the reports exceeding 130 years of experience under varying farm conditions. In the table the experience is so arranged that one can at a glance get the opinion of any one of these thirty users or all of them, upon the various practical questions put to them, and in the last column of the compilation is given in abbreviated form such remarks as each of the farmers wished to make. Readers of this journal interested in these plants will find this data very helpful in judging as to the efficiency of a gas plant upon the farm.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Allies continue to hammer the German line in Northern France. The British now hold Bullecourt firmly in their possession and are fighting to straighten out the line to the north of that point. In taking this position an additional mile of the famous Hindenburg line has been wrested from the Kaiser's men and the chances are improved for throwing the whole line out of balance. Farther to the south the army of the German crown prince continues ineffectually its attempt to break the French front along the Chemin-des-Dames. After an intense shell fire of all calibers and the use of asphyxiating gas the Germans were able to get out of their trenches in only a few instances and in only one did they reach the first line of the enemy, so deadly was the responding fire of the French. —With the improvement in political conditions in Russia, the central powers have fear of an aggressive military movement on the eastern front and to gain time and advantage the Germans unsuccessfully attacked the Russians in the Volhynia sector. The Russians also stopped a drive in the vicinity of Mitau and checked an offensive east of Koveika in Rumania.—A bitter contest is on along the Italian front. Ad-

vances were made last week east of Gorizia which the Italians have been able to hold against desperate counter attacks by the Austrians. The latest cables indicate that further successes attended the operations of the Italians early this week.—In Macedonia artillery duels and isolated infantry engagements continue.

Following the discovery of a well-formed plot for the fomenting of a revolution in Costa Rica under the leadership of Ex-president Gonzales, search is now being made along the uninhabited coasts of the country for a German submarine base.

Three Swedish ships laden with grain for that country, and guaranteed safe transportation by Berlin, have been sunk by undersea craft.

An explosive manufacturing plant at Vienna, Austria, was destroyed by an explosion in which nine men were killed and many injured, according to news from Copenhagen.

National.

America's military program includes landing of 500,000 soldiers and a powerful force of naval vessels, in Europe within a year. The first expedition of 25,000 men will likely be sent by early fall under the command of General Pershing. America already has a flotilla of submarine chasers hunting for enemy undersea craft in the British war zone.

The selective army bill calling for a total of 1,600,000 troops has been enacted into law. The measure provides for the registration of all males between the ages of twenty-one to thirty inclusive, from which the conscripted army is to be raised, for increasing the regular army to its maximum war strength and for drafting into federal service all national guard units. June 5 has been chosen for conscription registration day.

Colonel Roosevelt's offer to organize and command a large force of American soldiers for service in France and Belgium has been declined by the President. The men who had volunteered their services in such an organization and undertaking have been absolved from any further connection with the movement. They have been advised to enter military service in some way, but if this is impossible to serve the country in her efforts to carry the burdens of war.

The special war board for the control of railway transportation throughout the United States during the war has issued instructions ordering that passenger traffic be curtailed as much as possible in order to free equipment for the handling of freight.

A new steamship line connecting Baltimore with South American ports will be inaugurated May 30 by the sailing of the steamship Senta.

Special Subscription Price

The Michigan Farmer WEEKLY

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Help the good work along by informing your neighbors of this special offer.

Subscription blank is enclosed with sample copies.

The Michigan Farmer,
Detroit, Michigan

The Utility of Acetylene Gas Plants on Michigan Farms

(Bulletin No. 4, Research Dept., Michigan Farmer)

In the following table are given the experiences of thirty Michigan farmers with gas plants, ten of which have been in operation for five years or more. Every precaution has been taken to accurately interpret the reports—no selection has been made to color the character of the survey. Where blanks appear no answers were made.

Number of Owner.	County in which Owner Lives.	Size of Your Farm.	Size of Your Plant.	How Long Since Plant Was Installed?	Is Plant Located in Residence or Outside?	How Often Do You Recharge?	How Much Time Is Required To Recharge?	Have You Had Any Difficulty in Securing Supplies and Repairs?	Does Generator Give Off Offensive Odors.	Have You Had Any Accidents With Plant?	Give Distance of Farthest Burner from Generator.	Do You Get a Strong Steady Light?	Enumerate the Purposes for Which Plant is Used.	What are Monthly Upkeep Expenses?	What are the Annual Repair Expenses?	Would You Buy a Different Size Plant if Purchasing Again?	Can Work be Done More Quickly Than with Lanterns?	Do Better Lights Increase Young People's Interest in Farm Life?	Would You Recommend the Purchase of Such Plants by Farmers?	Abbreviated Replies to questions on advantages and disadvantages of these plants, and other remarks.
1	Ingham	200	50 lbs.	4 yrs.	Residence	2 mo.	1 hr.	No	No	No	75 ft.	Yes	Lighting and Cooking	\$2.00	None	Same	Yes	Yes	Yes	There is no odor to our plant. It requires but very little attention to keep in order. Lights are better. We are well pleased with it.
2	Branch	40	100 lbs.	1 yr.	Outside	4 1/2 mo.	1 to 2 hrs.	No	No	No	400 ft.	Yes	Lighting, Cooking, and Ironing	0.90	None	Same	Yes	Yes	Yes	I am running 12 lights, stove and iron on 90c per month. There are no odors, matches, chimneys to break or wash, lamps to fill and besides we have a 100% better light. We have self-lighting attachment.
3	Branch	20	100 lbs.	1 yr.	Outside	4 mo.	40 min.	No	No	No	60 ft.	Yes	Lighting	0.90	None	Same	Yes	.....	Yes	It is a great convenience to be able to turn lights on and off quickly. Do not need matches. No chimney to wash.
4	Ingham	160	25 lbs.	4 yrs.	Residence	1 mo.	30 min.	No	No	No	50 ft.	Yes	Lighting and Cooking	1.25	None	Larger	Yes	Yes	Yes	I have had no repair expense in four years. These plants furnish us with brighter and better lights with less trouble and expense than lamps.
5	Livingston	200	50 lbs.	2 yrs.	Residence	2 mo.	30 min.	No	No	No	50 ft.	Yes	Lighting	1.25	None	Same	Yes	Thinks so	Yes	There is nothing to do but to fill generator. Plant should be installed so refuse can be conveniently removed.
6	Eaton	100	100 lbs.	1 yr.	Outside	1 to 4 mos.	1 hr.	Yes	No	No	100 ft.	Yes	Lighting	2.50	None	.....	Yes	No	No	My plant gives good light but is too expensive. It needs to be filled less frequently in summer than in winter.
7	Branch	60	.....	2 yrs.	Outside	4 mos.	2 hrs.	No	No	No	30 ft.	Yes	Lighting	1.00	None	Same	Yes	Yes	.....	Lights are fine and the plant is easy to take care of. Would not take twice what I gave for outfit if I could not get another.
8	Livingston	160	50 lbs.	2 1/2 yrs.	Residence	2 mos.	1 hr.	No	No	No	35 ft.	Yes	Lighting and Cooking	1.25	None	Same	Yes	Yes	Yes	This is the easiest light on the eyes. Very safe and convenient with the self-lighting fixtures.
9	Eaton	70	50 lbs.	3 yrs.	Residence	1 1/2 to 2 mo.	1 hr.	No	No	No	20 ft.	Yes	Lighting and Cooking	1.00	20 c.	Same	Yes	Thinks so	Yes	We get splendid light and I am perfectly satisfied. However, if installing again I should plan to have plant outside on the level where it would be easier to remove refuse from generator.
10	Eaton	80	.....	8 yrs.	Residence	.....	20 min.	No	When filling	No	50 ft.	Yes	Lighting	.....	None	Same	Yes	Thinks so	Yes	Lights are bright, out of the way and an ornament to the rooms. My only expenses have been for carbide. Saves much time in home.
11	Eaton	240	25 lbs.	8 yrs.	Residence	1/2 mo.	20 min.	No	No	No	50 ft.	Yes	Lighting	1.50	None	Larger	Yes	Yes	Yes	Bought my first plant in 1900 and present one 8 years ago. Have improved them since 17 years ago. Better to have plant located in a frost proof outside pit.
12	Eaton	270	100 lbs.	1 yr.	Outside	2 mo.	2 to 3 hrs.	No	No	No	35 ft.	Yes	Lighting and Cooking	2.00	None	Same	Yes	.....	No	We get good light and are satisfied in a way but carbide does not last as long as claimed. Refilling in winter is an unpleasant task.
13	Arenac	160	100 lbs.	2 yrs.	Outside	3 mo.	1 hr.	No	No	No	45 ft.	Yes	Lighting	1.25	None	Same	.....	Thinks so	Yes	We would not be without this plant. They make a good investment for any farmer. Saves oil and the work of filling lamps and caring for them.
14	Arenac	160	.....	2 yrs.	Residence	.....	1/2 hr.	No	No	No	50 ft.	Yes	Lighting	1.50	None	Same	Yes	.....	Yes	I see no disadvantages in these plants. The improved lights keep me home more. The women are relieved of the work of cleaning lamps.
15	Eaton	2 1/2	50 lbs.	6 yrs.	Outside	2 mo.	1/2 hr.	No	No	No	100 ft.	Yes	Lighting	80c to \$1.60	None	Larger	Yes	Yes	Yes	Best light for the eyes. Our plant is placed in a cement cave in a side hill. We have had no repair expenses.
16	Cass	130	.....	16 yrs.	Outside	6 mo.	4 hrs.	No	No	No	40 ft.	Yes	Lighting and Cooking	2.00	2.00	.....	Yes	Yes	.....	I am not sufficiently familiar with other systems of lighting to form an opinion of their relative merits, but we are certainly very well pleased with our 16 years of experience.
17	Livingston	353	100 lbs.	2 1/2 yrs.	Outside	2 mo.	40 min.	No	No	No	130 ft.	Yes	Lighting	.....	None	Same	Yes	Thinks so	Yes	There is less danger of fire with these plants as compared with kerosene lights. The quality of light is very satisfactory.
18	Branch	160	100 lbs.	2 yrs.	Outside	3 mo.	1 1/2 hrs.	No	No	No	150 ft.	Yes	Lighting	.....	None	Larger	Yes	Yes	Yes	No lamps to fill or keep clean. Where self-lighters are employed no matches are needed and lights are ready any time.
19	St. Clair	145	100 lbs.	5 yrs.	Outside	3 mo.	20 min.	.....	.....	.....	.....	Yes	Lighting	1.25	None	Same	Yes	.....	Yes	Do not think there is any light that compares with the acetylene gas lights. Requires about 20 minutes time every three months to recharge.
20	Gladwin	80	.....	3 yrs.	Residence	1 1/2 mo.	15 min.	No	No	No	60 ft.	Yes	Lighting	.75	None	.....	Yes	Yes	Yes	The gas lighting plant is very convenient and requires very little time to keep in order.
21	Gladwin	60	.....	2 yrs.	Residence	5 mo.	5 min.	No	No	No	.....	Yes	Lighting	.....	.....	Same	Yes	.....	Yes	The cost of having the excellent lights provided by these plants, is very low and much labor is saved in the house.
22	Calhoun	3	.....	7 weeks	Outside	.....	20 min.	No	No	No	125 ft.	Yes	Lighting, Cooking and Ironing	.....	None	Same	Yes	Yes	Yes	I am well pleased with this lighting system. Night work is greatly facilitated because the light is three times brighter than that from oil lamps.
23	Jackson	140	.....	13 yrs.	Outside	1 1/2 to 2 mo.	20 min.	No	At times	One	30 ft.	Yes	Lighting	1.50	None	Same	Yes	Yes	.....	These lights save about half the time required to do chores and other work requiring light. They are inexpensive also.
24	Washtenaw	80	35 lbs.	7 yrs.	Residence	1 1/2 mo.	30 min.	No	No	No	50 ft.	Yes	Lighting and Cooking	1.00	None	Same	Yes	Thinks so	Yes	Lights are clean. Work is not only done quicker but with more pleasure and comfort. Have had no repairs made in seven years.
25	Clare	267	50 lbs.	2 yrs.	Residence	2 1/2 mo.	20 min.	No	No	No	10 ft.	Yes	Lighting and Cooking	2.00	None	Same	Yes	Yes	Yes	When you need a light you can get it instantly. We are well pleased.
26	Lake	300	.....	3 yrs.	Outside	2 wks.	1 hr.	No	Yes	No	640 ft.	Yes	Lighting	3.00	None	Same	Yes	Think so	Yes	Lights are always ready and they do not hurt the eyes. Should have water handy for recharging.
27	Washtenaw	200	50 lbs.	7 yrs.	Outside	1 mo.	30 min.	No	No	No	200 ft.	Yes	Lighting	1.00	None	Larger	Yes	Yes	.....	Much work is saved by these gas plants and one has better lights. Have our generator in cement pit outside residence.
28	Calhoun	120	100 lbs.	7 yrs.	Outside	5 or 6 mo.	2 hrs.	No	No	No	80 ft.	Yes	Lighting	.....	None	Same	.....	.....	Yes	One can have a good light instantly. Especially desirable where there are old people in the family.
29	Branch	120	100 lbs.	2 1/2 yrs.	Outside	2 mo.	1 hr.	No	No	No	200 ft.	Yes	Lighting	1.50 to 2.00	None	Same	Yes	Yes	No	Buildings are well lighted at a minimum cost. We have had some trouble with gas leaks due to faulty installation.
30	Sanilac	450	100 lbs.	4 yrs.	Outside	3 mo.	1 hr.	No	When filling	No	300 ft.	Yes	Lighting	.....	1.00	Larger	Yes	Thinks so	Yes	Provides a nice white light in every room. Saves time. Put the generator in the ground away from the house.

Minimum and Maximum Prices

By JAMES N. McBRIDE
State Director of Markets

MINIMUM and maximum prices for farm crops have been opposed by the speculation element. These clearly see their undoing in the narrowing of the price margin between minimum and maximum figures. Unregulated trading makes the earth and sky the limits. With the changes proposed by the United States the horizon would be visible for both producer and consumer.

H. C. Hoover, the mining engineer, whose Belgian experience will probably make him food director in the United States, points out that the 1916 wheat crop passed out of growers' hands around an average of \$1.30 per bushel. Each advance in price until it reached \$3.30, measured the possible margin of gain to speculators who took that gain from the consumer, not for the benefit of the producer, who would have used it to produce more wheat, but for purposes unrelated to food supply. The consumer has not kept clear this distinction of profit returning to production, or being diverted therefrom. For the United States to have had a minimum price of \$2.00, for example, and a maximum of \$2.25, would have reduced wheat handling to a merchandising proposition. The railroads have a regulated transportation or handling rate and it is this prospect that the speculator sees in the United States action on prices. To prevent this, misleading tactics and specious reasoning is employed, intended to deceive.

Munitions vs. Food Stuffs.

Some manufacturing concerns tendered their plants to the United States for the interest on the investment, plus salaries and depreciation. Here was a minimum price on operations, which was undoubtedly more than a minimum price to agriculture would be, with similar allowances. The turning over of farms on such a basis with adequate or similar payments for superintendence would bankrupt the United States treasury. A minimum price for farm crops was distorted into a hold-up game, while a halo of patriotism surrounded the manufacturer. When the United States Defense Board considered all these matters, and especially when the United States was to become the world's greatest buyer of food stuffs, it was determined to treat agriculture as it did every other industry and place its orders at a fair price. An order presupposes a known consideration and calculations to meet it. This was to be the minimum price for staple crops. A few orders for copper were made vastly under the market, but this policy was wholly abandoned as it was seen to unsettle trade relations, just at the time the United States was demanding service and money. To get service and money (taxes) from agriculture, some thoughtless thinkers would have had the United States make of agriculture an exception to this rule, which the defense board early foresaw as a necessity. Wholly disregarding this as an established national policy, the food speculator opposed a minimum price or order buying applied to agriculture, because the consumer must be considered. The minimum price to have any effect whatever, must increase the food supply, which would tend to lower the price below what the maximum would be, if the supply was less, and hence benefit the consumer.

Specious Arguments.

Next, it was unsafe for the farmer to have a minimum price because in the interest of the consumer, the United States would make a lower price than unrestricted supply and demand would normally give. This presumption assumes bad faith on the part of the United States government toward the

farmer, as well as ignorance of fundamental agriculture. The simultaneous fixing of minimum and maximum prices assumes action without knowledge of crop volume or conditions of yield, else the promise of a minimum that would increase production and afterwards a maximum that would neutralize the promise of profit. This would react the next year. This presumption is, however, not so unnatural, considering the presurers who had just done what Mr. Hoover had said of the price paid the grower for the 1916 wheat crop. Nor was it unnatural to presume that the consumer was in need of protection, considering what had just happened to him in increasing bread prices. Also at this time the Chicago wheat board barred futures dealing to save the "shorts" from ruin, regardless of the wrongs inflicted on the producers' average selling price of \$1.30, and on the consumer, with each advance until \$3.30 was reached.

The assumption of the guardianship of the farmer against the dangers of a minimum price and the protectorate over the consumer from the harm the farmer might do him, would be humor-

Don't Use Diseased or Frosted Seed Beans

A YEAR ago all authorities on bean diseases advised the use of clean seed. At that time it was practically an impossibility to obtain disease-free beans for we had just had two wet years during which few control methods had been employed. Such conditions are especially favorable for the development and spread of these diseases, consequently there was a general infection in all the bean growing sections of this part of the country and as beans from the far west do not mature properly here, the prospects for a big loss due to the use of diseased seed was imminent in the spring of 1916. A great many growers got the best seed they could and hand-picked it thoroughly. Others used beans for seed that had no qualification for merit except that, according to the user, they were cheap. The writer observed a number of instances where beans with a ten to fifteen pound pick, and even culls, were used for seed.

Due to the peculiarly dry summer of 1916 and not to the foresight or credit of the men who used poor seed, anthracnose practically disappeared from our fields and blight was largely held in check.

With bean prices nearly triple those of last spring and as a number of farmers proved (?) they could use diseased seed and not get a diseased crop, some are planning on using culls from last year and a few who have some culls from the 1915 crop are thinking of using them for seed. Both these practices should be condemned as criminally careless. Diphtheria is a menace to a community and so is quarantined and controlled; in a like manner, cull beans, especially those of 1915, if used for seed will be a menace, not only to the community but to the state and nation as well. With the country called upon to strain every resource to carry this war to a successful conclusion and at the same time feed our own and several other nations, we should not think of using anything but the best of seed. As far as the grower himself is concerned, while good seed may make a little higher initial expense, he will be amply repaid for every cent he spends in this way.

Bean diseases are not directly caused by the weather but they certainly are greatly influenced by it. Now since nature stepped in and checked

ous, if it had not been a tragedy to all but the speculator, and to him, enormous profit.

The Speculator's Waterloo.

The view is held by many that never again will civilized governments allow organized speculation in foods. Like the menace of alcohol to national existence in time of war, the food speculator will pass the way of the saloon keeper. For each there is no economic place, and both interfere with efficiency. The arguments of the food speculator in the final analysis seem like ones already discredited, as "interference with personal liberties," is "necessary to maintain business" and "a dead town without it."

England has stopped wheat speculation by a minimum price. Liverpool no longer makes wheat prices for the world. It is this governmental attitude that has frightened the speculator's world.

No honest farmer will fail to welcome governmental inquiry into crop costs and a fair minimum price, nor will he oppose a maximum price from the government, to prevent extortion. As a practical fact, extortion is only possible when food stuffs are concentrated in a few hands. Agriculture has no such organization, or a minimum price would not be necessary, or \$1.30 wheat for 1916 possible.

these diseases last year let us profit by the experience of the past and do our part in keeping them in check and at any cost prevent a wholesale re-infection.

The culls of the 1916 crop are in most cases not badly diseased but in general they contain a large percentage of frosted beans. In some sections this year most of the "pick" is due to these beans that were frozen before mature. These will either not germinate at all or will produce only weak plants so they certainly should not be used for seed.

From a recent survey of the situation there appears to be plenty of bean seed in Michigan at present. A majority of the bean growers have saved enough to supply their own needs and there is a considerable reserve in the hands of jobbers.

On the other hand, there is an enormous demand for these for food purposes and there are a great number of inquiries coming in from certain sections of this and other states for seed so no grower should delay finding out the condition of his seed as to its germinating power and freedom from disease while it is still possible to get other seed.

J. W. NICOLSON,
Extension Specialist M. A. C.

PLANT CORN.

Most Effective Substitute for Wheat at Our Disposal.

The most effective way to remedy the probable shortage in the wheat crop is to plant corn, says the United States Department of Agriculture.

Ordinarily the quantity of corn produced in the United States is from three to four times the quantity of wheat, but only a very small portion of the crop—from five to ten per cent—has been used for human food. This amount may be estimated in normal times at about 200,000,000 bushels a year. Not over five per cent has been exported in peace times. A relatively slight increase in the corn acreage, therefore, will place many millions of bushels more of human food at the disposal of the world without interfering in any way with the feed needed for the support of live stock.

In the past, with an abundance of grain of other kinds, corn has not been in great demand for human consump-

tion. But with other grains no longer abundant, circumstances will compel more general recognition of the value of corn as human food. The department is urging strongly the wider use of corn in the diet. It is the best substitute for wheat that we have and can be utilized in breads, mushes and a variety of other ways. We should make every effort to avail ourselves of it.

"Plant corn," then, should be the motto of every farmer in a section suited to the crop.

GROW BUCKWHEAT.

Buckwheat should be grown in larger quantity this year in New York, Pennsylvania, Ohio, Michigan, Wisconsin, New England, and in the mountain sections of Maryland, West Virginia, Virginia, Kentucky, North Carolina and Tennessee, where it is known to be a safe crop. It should be sown on land where other crops have failed and on old meadow and pasture lands where the yields of hay and grass promise to be small. This is the advice given by the United States Department of Agriculture to farmers in all states named, but especially to those in New York and Pennsylvania, where about two-thirds of the buckwheat crop of the country is now grown. In the more northern states, buckwheat can be sown almost anywhere, without reference to elevation, but farther south it is best adapted to the uplands and mountainous sections.

Buckwheat should be sown on land prepared as for corn. It is an excellent crop to sow where corn or some other crop has been planted, but where a stand has not been secured. Best results are obtained where the land is plowed early and is well prepared, but good results can be obtained by sowing immediately after plowing and harrowing.

Uses of Buckwheat.

Buckwheat is valuable as a human food. It is also an excellent feed for poultry. The middlings remaining as a by-product after milling are, on account of their high protein content, a valuable feed for dairy cows. The production of buckwheat will help to provide food in many districts this year for local consumption and thus help to avoid the danger of shortage due to possible lack of adequate transportation facilities.

CROP AND FERTILIZER QUESTIONS.

Buckwheat for Muck Land.

I have a field of about forty acres of heavy June grass sod. The land is mucky, with clay sub-soil. I would like to know if buckwheat would be of any use to subdue the June grass on this land? I had a good crop of beets on this land seven years ago. After the beets I had oats, but they grew rather too rank and lodged, thereby killing out part of the seeding, which caused the June grass to take a start, and it has been left in that way ever since, so that it is now almost a solid June grass sod. Now, if you believe that buckwheat would grow on this land, then I would like to know what kind of buckwheat to get, how much to sow per acre and where the seed could be obtained.

Gratiot Co.

C. K.

Buckwheat, like any other plant, is liable to grow too much straw on rich muck land, and yet with a favorable season you ought to be able to get a good crop. There is nothing better than buckwheat to smother out June grass as it produces a dense shade. The only trouble about buckwheat is that if it blossoms during a spell of hot weather it doesn't fill well and one takes a chance on this crop. On my soil I would rather raise buckwheat sown the last of June or the first of July, then it doesn't blossom until after the heat of the summer is over and usually fills well, but your muck land is probably liable to frost and

you must get your crop of buckwheat matured before the first frost or it is gone. However, it probably should be planted by the middle of June and take your chance.

I have grown both the Pearl buckwheat and the common buckwheat and I think the common buckwheat is as good as the other. From three pecks to a bushel is seed enough. You don't want it too thick for a good crop. If there is a thin stand the plants will branch out in bushy form, are much less liable to lodge, and usually fill better than when the plants are thick. You can purchase seed buckwheat from any reliable seedsman. Your local dealer can order it of the big wholesale seedsman for you.

My judgment would be that 200 lbs. of acid phosphate per acre would hasten the development of buckwheat on this soil and prove a splendid investment.

Fertilizer for Ensilage Corn.

We expect to erect a silo 10x32 feet. Have six and a half acres, about half of this field is sand loam and the other half is clay loam. We plowed down a heavy June grass and timothy sod last year and it was partly covered with manure. We have covered it again this winter and want to plant it for silage. How should we drill the corn and how much seed per acre? Would it pay to use some commercial fertilizer; if so how much and what analysis would you recommend?

Eaton Co. A. J. W.

Unless the land is very weedy, I would plant ensilage corn in drills, drilling the rows in three feet apart. My judgment is that ensilage corn should be planted considerably thicker than corn for grain. I would plant not less than eight or ten quarts per acre and I would also plant some soy beans with the corn.

My judgment would be that it would pay to use commercial fertilizer even though this land was thoroughly well manured with stable manure. If your corn planter has a fertilizer attachment I would put it on at the rate of about 100 pounds per acre and drill in with the corn and I would use a brand containing two per cent ammonia and ten or twelve per cent of phosphoric acid.

Inoculating Alfalfa Seed.

I am plowing up five acres of alfalfa, intending to re-seed to alfalfa, with a bushel of barley per acre as a nurse crop. In parts of this piece I am plowing up alfalfa roots from one to three feet long, but they do not seem to have any nodules on them. Shall I inoculate the seed again? Ground was not thoroughly limed before, only 300 lbs. of hydrated lime per acre out of wagon this year. I have ten tons of finely ground limestone to "sweeten" the piece with. I have a distributor to put it on with. I have five acres that I covered quite heavy with manure a year ago, scattering from the wagon during the winter. Put it to corn in spring. It did the corn more harm than good as it was too thick, uneven, and too much coarse litter in it. I am intending to plow this, getting the manure on top and planting to beans. Am intending to lime this piece some time before putting it to rye in the fall after harvesting the beans. The ground needs lime. In your opinion would it increase the crop of beans to any extent to lime before planting them?

Barry Co. W. H. S.

Ordinarily, one would say that it would not be necessary to inoculate alfalfa seed in re-seeding an alfalfa meadow, even though the seeding was uneven, because there ought to be plenty of alfalfa bacteria in the soil. However, if you got no nodules on the roots of the alfalfa plants, it is barely possible that the plants did not get inoculated. It certainly would be the safest way to inoculate and as it don't cost very much it would be a good business proposition to do so. It is better to be safe than sorry.

I have no doubt but that this heavier application of lime will be very beneficial in getting a better stand of alfalfa this time. If you have time I certainly would advise putting the lime on the field that you intended for beans before you plant the beans, rather

than putting it off until you sow rye this fall. Beans don't do well in a sour soil. In fact, this crop needs a sweet or neutral soil much more than rye and it will cost no more to apply it before you plant the beans than afterwards. My judgment would be, by all means apply the lime and work it into the soil before the beans are planted.

Applying Acid Phosphate.

Please advise me where I can buy acid phosphate, price per ton, and the amount to use per acre for beans, also potatoes, how best to apply and when. Calhoun Co. E. O. P.

Acid phosphate can be purchased from any reliable fertilizer manufacturer. You undoubtedly have a fertilizer agent in your town, and if he hasn't got acid phosphate on hand he can order it for you, and I think that this is the best commercial fertilizer to use for beans; and this year especially, with potash so high that it is out of the question, it is the best fertilizer that you can use for potatoes. Ordinarily, we would want some potash in a fertilizer for potatoes but acid phosphate alone on most soils produces gratifying results.

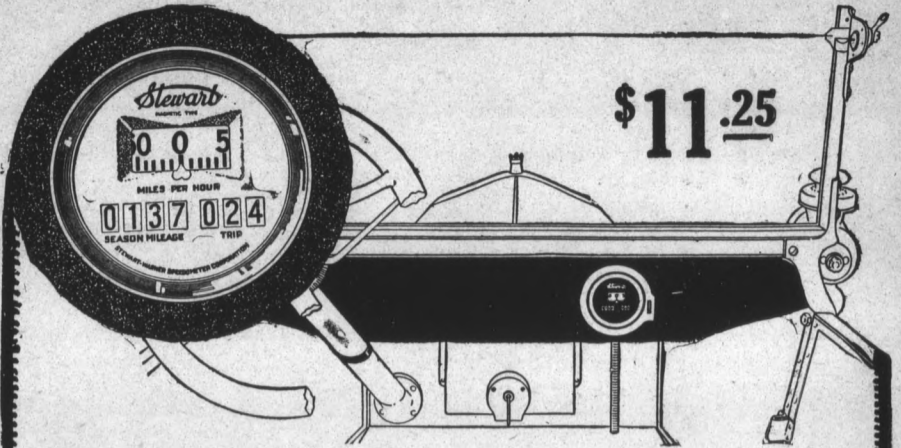
In applying acid phosphate to beans, about the best way is to plant the beans with a grain fertilizer drill. Put a partition in the fertilizer attachment so it will not sow the fertilizer directly in the row with the beans and use fertilizer in the rest of the hose. This will distribute the fertilizer over all the ground except right in the drill with the beans, and as the roots develop they will get the fertilizer and you avoid the risk of the fertilizer, especially if the ground is hot and dry, injuring the germinating power of the seed.

Where a small amount of fertilizer is used on potatoes it is best to apply it right next to the row. If you have a potato planter with fertilizer attachment, this will distribute the fertilizer on either side of the row as it is planted and mix it with the soil. If you haven't a fertilizer planter, it can be distributed by hand along the potato row, or it can be applied broadcast with a fertilizer drill before the potatoes are planted. This is undoubtedly the very best way to use fertilizer on potatoes but it requires a heavier application. From 100 to 200 pounds to the acre will do when it is distributed in the row alone; but if you apply it broadcast, from 250 to 500 pounds is more practical and it will give you a better yield of potatoes.

Fertilizer is usually applied at the time of planting the crop, but if you applied it broadcast for either crop it would be better to apply it a week or so before you planted the crop and get it well worked into the soil and dissolved in the soil moisture before the crop is planted. Most people don't do this because it makes extra work in applying. COLON C. LILLIE.

IMMATURE POTATOES NOT SUITABLE FOR PLANTING.

Farmers in the northeastern states are warned not to plant newly harvested potatoes, especially the small, immature stock now coming from the south, in a statement issued today, (May 11), by the United States Department of Agriculture. Under the influence of the high price and unusual demand for seed potatoes, these immature stocks, it is learned, are being offered for planting. Newly harvested potatoes, whether dug in the early spring, summer or autumn, the department's specialists state, do not germinate until after undergoing a certain rest period, and results are sure to be disappointing. Germination may be delayed six weeks or more, and in any case will be uneven and the stand imperfect. The grower, therefore, is warned not to purchase such seed, as more or less serious financial loss will be sure to result if he plants it.



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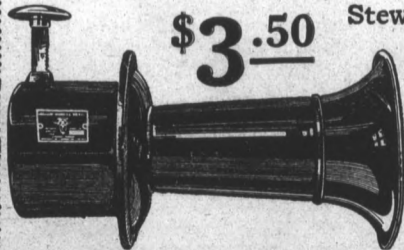
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War and the Fruit Grower

THE war has changed conditions so that most every line of industry has been affected one way or another. There has been an unusual amount of inflation in some businesses to take care of the new demand, while in others there has been retrogression because their products are not needed in this new order of things.

There is one thing, however, which stands out more prominently than any other, and that is that the war has given the farmer his opportunity to put his farm on a business basis, and to enjoy some of the advantages of life, besides laying by some reserve for old age.

The farmer is in many respects in an enviable position if he will but take advantage of his opportunity. He can increase the output of his farm without much increase in the overhead expense. Other businesses, in order to

much to gain and very little to lose. The fruit grower, however, may think that his line of production may not be as well influenced by present conditions as that of the farmer, because his products are considered luxuries by some and on that account, because of the high price of necessities, the demand for fruit may be lessened. However, the fruit grower can expect to benefit by present conditions as well as producers of other edibles for the consumption of fruit will be increased instead of decreased.

The manager of one of the best grocery stores in Detroit said that he could see no reason why the demand for fruit should not be very good. It was about the cheapest thing that one could buy and with money plentiful among the working class they would be larger consumers of fruit than when times were bad and money and work

000 worth of fruits and nuts more than in 1912-1913, the last two normal years. In both periods we consumed more of these products than we produced, but in 1915-1916 the consumption over production amounted to \$29,000,000, while in 1912-1913 it was only \$17,000,000. The value of the fruits consumed in 1915-1916 was \$33,000,000 more than that of 1912-1913. Also, the imports of the two years of the war period were \$7,000,000 more than that of the two years of the peace period while the exports were \$5,000,000 less. Furthermore, the value of the wheat and meat consumed during the war period has decreased as compared with the peace period, while the exports of these two products have increased to a very great extent. This indicates that the consumption of these two necessary articles of diet have decreased while that of fruit increased because fruit was the most economical to buy.

Fruit Prices Advance.

Supply and demand are the main factors which determine the price of our farm products. Therefore a comparison of the relation between the size of the crop and the price during the war period and before, will give some idea of the demand of the two periods and what we might expect while the present conditions prevail.

The apple crops of 1912 and 1915 were about alike, the former being estimated at about 78,000,000 barrels and the latter at about 77,000,000. The average farm price per bushel on December 1, 1912, was 68 cents; in 1915 the price at the same time of the year was 75 cents. In 1916 the crop amounted to 67,000,000 barrels and the approximate December first price was 85 cents.

The above facts indicate that the demand for fruit thus far during the war period has increased and that the prices have been good on account of this increased demand. There are no reasons why the demand this year should not be very good at good prices, and therefore there is every reason why the fruit grower should feel optimistic regarding the future and should use every effort to grow a maximum crop of good fruit.

TROUBLE DEPARTMENT.

Fertilizing Tomatoes.

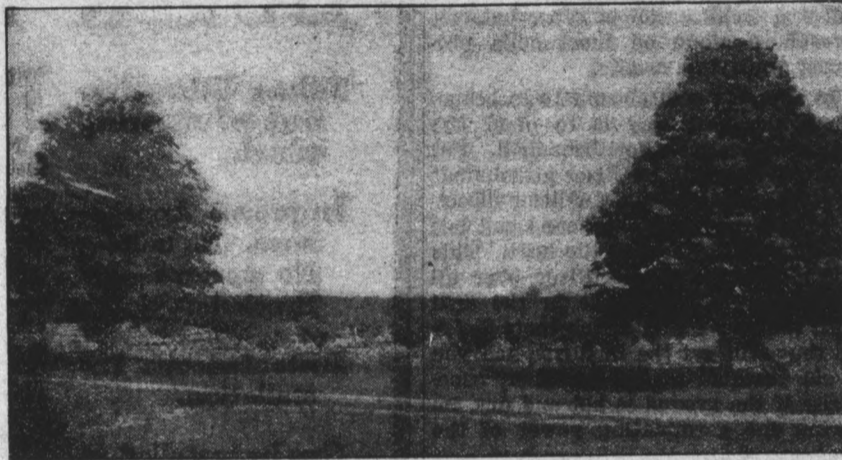
Can you tell me how best to apply hen manure to tomato plants? I have saved the droppings from 65 hens since last summer and want to use it on 200 tomato plants. The ground was into corn last year, and was fall plowed, but not manured. Would it be better to spread with spreader and drag in, or to spade in a quantity in each hill? If the latter method is used how much can safely be put in a hill? Also how can I combat those large green tomato worms? They nearly defoliated my plants last year. J. W. C.

The best way to prepare hen manure for use in the garden is to thoroughly crush it and mix it with an equal amount of dry earth, after which it can be applied quite liberally around the plants. About two handfuls well worked into the soil around each tomato plant will make a good liberal application.

If you wish to put it into the hill before setting the plant, be sure to mix it thoroughly with the soil, otherwise it will cause injury to the roots.

The only satisfactory method of controlling the large tomato worms is to hand-pick them. Poisoning with arsenate of lead is sometimes successful, but after the worm has reached a fair size, it is difficult to get enough poison on to materially affect the worms.

If you desire to control the worms by spraying, it will be necessary to keep the plants well covered with poison, starting quite early in the season. About three pounds of arsenate of lead to fifty gallons of water, with Bordeaux mixture made at the rate of four pounds of copper sulphate to six pounds of lime is a very good spray for the control of tomato insects and diseases.



Peaches Will Bring Good Prices this Year.

meet war demands, built new factories and in other ways went to large expense to increase production. In many cases, after the war the equipment used for this temporary demand will be of little value. But the farmer will have his farm in better shape than ever after the war demand is supplied, to supply economically the normal demand. There is no business which has as bright an outlook for profitable business as farming. There is none which can look into the future with assurance as well as the farmer. He has

scarce. The average individual does not save for future needs but spends all he has for the pleasures and necessities of the moment. This is shown by the fact that, in spite of the high prices of everything, retail business along all lines has been good and the people have especially indulged in luxuries.

With the buying power of the people increased as it has been, the fruit grower can expect a better demand for his product than in normal times. He should more rightly fear times of money scarcity, not times of plenty, for in such times only the well-to-do and medium class who consider fruit as essential to a healthful diet are the only consumers, while the others cannot afford it.

Fruit and the Sugar Situation.

The price of sugar and its effect on the use of fruit for canning purposes is often used as argument by the pessimist. While sugar is high, the sugar experts believe that it has reached its maximum price. Should it maintain its present price there is no doubt but what home canning will be carried on this year more than ever because the idea of food conservation will be thoroughly instilled in the minds of the consuming public. The prevailing idea will not be one of a conservation of dollars, for they are plentiful, but rather one of a conservation of food, and as never before the people will have a feeling of security if they can have a stock of canned goods of all kinds on hand.

The canning factories will also make their output as great as their capacity and the supply of fruit and cans will permit, for beside the ordinary demand there will be an unusual demand for canned fruit for army feeding purposes. During the past year large quantities of canned fruits went over to feed the allied armies and now that this country will also put an army in the field this demand will be increased considerably.

Production and Consumption.

Government reports show that in the years 1915-1916 we produced \$20,000,-

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Dairy Problems

Sweet Clover for Hay.

Could a dairyman having a short clover crop overcome this disadvantage by growing sweet clover for hay this year? Soil is clay loam and well drained. Cottonseed meal cannot be secured. Would millet seed aid in balancing a grain ration with corn, oats, buckwheat middlings and sugar mangels?
H. E. R.

I am not familiar enough from actual experience with sweet clover to warrant me in advising you very definitely about this plant. I seeded some once with oats in the spring, but it didn't do very well. Of course, had it been seeded alone on well prepared land it undoubtedly would have done much better. Sweet clover ought to make a fairly good growth and possibly you can depend upon it for hay this year but I have never grown it and can only answer from outside information, and that is nothing very definite.

I am positive, however, that if you would sow oats and peas (they should be sown at once), and cut this for hay, that you would have a splendid substitute for clover hay. Mix the peas and oats equal parts by weight, and seed at the rate of about three bushels per acre. Cut and handle as you would clover hay, cutting the crop when the oats are in the milk and the pods of the peas are nicely formed. Don't let them get anywhere near ripe. Handle this as you would clover hay. After it is nicely wilted in the swath it ought to be raked up and put in cocks and left for a day or so, then these cocks opened up to the sun and wind. Then it can be drawn into the barn, and it makes a splendid substitute for hay. All kinds of stock like it, and dairy cows especially.

Millet seed would by no means be a substitute for cottonseed meal because it is not rich enough in protein. If you have clover hay or pea and oat hay you can have a splendid ration by mixing corn and oats ground equal parts with an equal amount of buckwheat middlings. It would be hard to beat that ration for cows. Then a feed of mangels will furnish succulency and make a first-class ration.

Storing Butter for Winter.

Will you please give me some good recipe for a brine to cover butter for laying down? When do you think is the best time for laying it down for winter use? Do you think it necessary to make the butter more salty than for present use?
J. S. K.

This is a question that I don't remember being asked for many years. The idea of a farmer storing butter, "putting down butter," in June to be used the next winter carries one back to pioneer days when people had an idea that cows wouldn't give milk in the winter time. Then June butter sometimes sold for eight or ten cents a pound.

But the modern idea is to have cows' milk the year around. A fair per cent of the butter is now produced in the winter time. Yet, of course, there is still a surplus during spring months. Now this is placed in cold storage and put on the market in the winter time when the smallest amount is produced. The old-fashioned way of putting down butter has now given place to cold storage, but it can be kept so that it is good butter in the winter time. There is no secret about it.

The great thing to understand is that the buttermilk must be all worked out of the butter. If you have clean, pure butter, there isn't very much trouble about its keeping. It is the buttermilk that is left in the butter that causes it to become rancid. Again, salt does very little toward preserving butter. It is used to flavor it but it has very little effect in preserving. No one thinks of salting lard when they want to put it down, because lard is pure fat, there is no buttermilk in it. If you had pure butter-fat there would be no more trouble in

keeping it than there would be in keeping lard. So the thing to do is to thoroughly wash the butter before salting, when it is in the granular form, and then to carefully work it afterwards and get out all the buttermilk. Pack it in stone crocks and put it away in as cool a place as you can get. It should be covered with good strong brine to keep the air away as much as possible. The only caution necessary about this brine is that it should be made from good pure water, that is, water containing no organic matter. If these ideas are followed, there is no trouble about keeping butter in fairly good shape.

A Balanced Ration for a Cow.

I would like advise on a good balanced ration for a cow. I have to buy everything, and want to know what would be the cheapest, and still be good.
C. E. H.

There is nothing better than clover and alfalfa hay, so I would provide all the clover or alfalfa hay that a cow will eat up clean. As a grain ration, there is nothing better than corn and oat chop, or the whole grains of corn and oats ground together. They are nearly as cheap as anything now. But these grains do not contain quite enough protein, so I would recommend mixing 200 pounds of corn and oat chop with 100 pounds of wheat bran for the grain ration. Besides, as long as you have no silage to feed, I would feed dried beet pulp. It is a splendid conditioner. I would recommend that you feed four pounds of dried beet pulp per day and a sufficient amount of the grain mixture recommended above to make one pound of grain per day for every three pounds of milk the cow gives. If you have not been feeding as heavily as this of grain, I would gradually increase until I reached this limit.

If you can't get the dried beet pulp, then I would recommend that you feed two pounds of oil meal per day and a sufficient amount of corn and oat chop with this to make the necessary amount of grain.
COLON C. LILLIE.

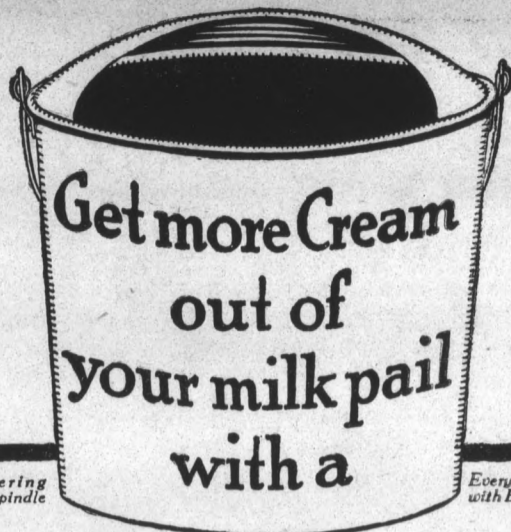
ANNUAL MEETING OF THE AMERICAN JERSEY CATTLE CLUB.

The forty-ninth annual meeting of the American Jersey Cattle Club, held at the Waldorf-Astoria, on Wednesday, May 3, at which every state but one was represented, disclosed that the year just ended has been the most successful in the history of the club.

The secretary's report showed the finances of the club to be in excellent condition, and also showed a substantial increase in the amount of business transacted. During the year 36,117 Jerseys were entered in the herd register and there were 34,499 transfers recorded, indicating an increase of seventeen per cent over the year before in the sale of Jerseys, which is the largest increase in transfers that has been recorded for over twelve years. Eighty-four new members were admitted to the club during the year, bringing the total membership up to 649 against 592 the year previous. There are now 100 applications for membership pending, and it is expected that the club membership will soon be over 700.

A report on extension work brought out the fact that Jersey breeders are boosting the breed and its products more energetically than they have ever done before, and that great results have been attained by the breeders in their respective localities in stimulating interest in the breed. Field workers attended over 500 meetings in the interest of the breed, and have been instrumental in organizing many state and local associations. It is planned to carry on this work more vigorously during the coming year.

M. D. Munn, of St. Paul, Minnesota, was unanimously re-elected president of the American Jersey Cattle Club; Edward Cary, of Carlton, Oregon, F. J. Banister, of Kansas City, Mo., W. Gettys, of Athens, Tenn., and George Batten, of New Jersey, were elected members of the board of directors for a term of three years. At a meeting of the board of directors following the annual meeting, F. W. Sessions, of Utica, New York, was elected vice-president. R. M. Gow was re-appointed secretary.



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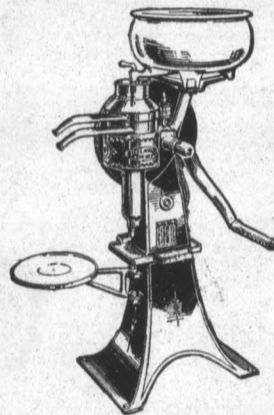
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Government Marketing

By DR. W. O. HEDRICK

IN the bill which is now before congress establishing a "governmental food control" in this country, there appears the following clause:

"In case of extreme emergency the government shall have power to purchase, store and substantially dispose of food products."

As may be readily seen, this is in substance a proposition to take over by the government the business of farm products distribution, or marketing, as it is called when looked at from the individual standpoint. The work of this pursuit, as everyone knows, is now done by middlemen. It is a business in which the service rendered is not always plain, while the charges exacted are always certain and sometimes excessive.

The country's single example of large-scale distribution which is not taken care of by middlemen, is the distribution of mail by the national government. Mail distribution and farm products distribution resemble each other in many ways. Collections are made in both instances of small quantities from separate places scattered all over the country—virtually from ocean to ocean and from Mexico to the Dominion. In both cases distributions are made to equally scattered terminals—the mail receiver in one case, the consumer in the other. In both cases, the same plan of operation is followed, namely, to accumulate both mail and farm products in the large cities and from there scatter them out again to where needed. Vastly different are the terminations of the two distributions, however, since in the case of the farm product, it must be sold before its journey is finished, while in the case of mail it needs only to be delivered.

If one asks now why is it that the government can pick up mail anywhere and deliver it everywhere as it does, and do this for the low expense of two cents per ounce, must not the answer be because of its postal organization, its mail specialists, and its building and labor saving equipments? Our mail service has these things and it is unquestionably on this account that mail can be carried so cheaply. If anyone thinks that mail can be distributed for two cents per ounce without these facilities let him try the direct distribution of his own mail for himself for a time as we so often hear it urged that the direct distribution of farm products should be done.

The truth is that whatever the commodities are, whether mail or farm products, if they are gathered up from widely different points and scattered out to other points, they simply must be assembled at a few central points before being again redistributed. The milk distributing of any city illustrates this perfectly. Furthermore, the operation of any of this machinery of any sort is, of course, best done when handled by specialists. In this day of specialization no one would claim that the mail distribution could be as well done by the railroad engineers or conductors as it is done by mail experts.

It now remains to be seen whether the government can do this distribution work satisfactorily in accordance with the proposed law. Farmers should not be asked to place too much reliance upon a plan which may or may not work out. It is not a job which will bear much experimentation either since farmers must dispose of their products in the normal fashion and consumers must have the usual dependence for their supplies.

It will be seen at once that the distribution of farm products is a vastly bigger undertaking than anything of this sort which the government has undertaken before. The distribution of mail is a mere drop in the bucket. In simple numbers of units the differ-

ence between the two classes is not striking—the number of pieces of mail handled by our post office last year equalling some 14,000,000,000, while the best tabulations of farm products obtainable shows very nearly a similar number of units of farm products. But here the resemblance ends, since mail units are small in size and of durable material, while farm products are the reverse. Mail matter at its worst must conform to certain rules laid down by the post office department, while farm products may consist of every sort of product imaginable.

But other difficulties are insignificant in comparison with the difficulty of selling the product as it must be sold at the termination of its distribution. As was said before, there is no difficulty of this sort in handling mail since mail is a gift to the receiver, while farm products must be sold. But the government has no facilities for dressing, displaying, advertising and advancing farm products in the way retailers do at the present time and without these the quantity of products disposed of to the consumer must certainly be much less than the quantity disposed of at the present time. Truly any large view of products distribution must regard the retailer as the farmer's representative in dealing with the consumer. He is in the front line of attack so far as representing the farmer is concerned and no efficient scheme of distribution can well be thought of which leaves him out. But this service is wholly denied the farmer if governmental distribution is undertaken.

The simple matter of local collections affords another impressive contrast. The one-horse mail wagon does the one, a multitude of heavy teams and wagons would be necessary for the other. It is reliably estimated that the average haul of farm products is six and a half miles. The average load is about a ton, and the costs of this haul is from ten to twenty per cent of the value of the load. Indeed, it is more expensive to make this wagon haul in the country than to transport the same load from three to five hundred miles by rail. One can see at once that mail collection and products collection are quite different things, and the whole difference should be fully appreciated before a new plan is employed.

Another aspect of this enormous job of distributing the farm products of a continent is the tremendous amount of working capital which will be required. At the present time the ownership of the nation's food supplies is mainly in the hands of different classes of middlemen. The local shipper is in possession of some, the wholesalers of all sorts hold vast quantities, and the retailers have their stocks. They have bought these from the farmer and from each other, and they retain ownership until sold to the consumer. The seven billions of dollars, for example, which has recently been voted for war purposes, and which by the way, is twice what the Civil War cost, would at least need to be duplicated if the government were to buy up farm products, as some nine or ten billion dollars worth of farm products are annually produced in this country.

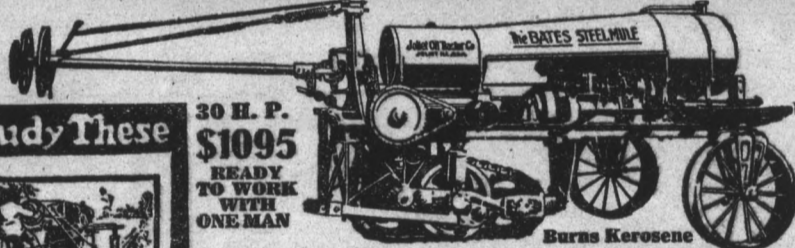
The difficulties to governmental distribution of products which have been mentioned need not by any means be looked upon as positive hindrances. The thing may be done and done satisfactorily in spite of all these, but it has seemed to the writer, who is not in the least interested in the middleman business, that the obstacles should be squarely faced, especially when a scheme of such magnitude as this is about to be undertaken.

(Recent developments would indicate that the marketing scheme provided for in the measure referred to in this discussion, contemplates the use of existing machinery and agencies for distributing farm products. If this be true, then many of the difficulties referred to by the writer would not obtain, at least to the degree that they would were the government under the necessity of creating machinery for such distributing).

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The Calf Crop

By N. A. CLAPP

AMONG the traits of character that are most admired and considered necessary to make noble and desirable citizens, that of true patriotism, a genuine love of home and country, and a willingness to sacrifice if need be, for the defense and sustenance of the same, is a characteristic held in high esteem at the present time. The desired result of the present crisis will not depend entirely on the men on the battlefields, but those who give their time for military duty must be fed, and their families fed while they are away from home in the service of their country, as well as the teeming millions engaged in the industrial arts necessary to supply the armies on the battlefields and in the quiet walks of life.

A peculiar kind of diet is required during times of war. A generous meat diet seems to be required for military men and a generous mixed diet for the industrial laborer. A large percentage of the hog meats, such as bacon, smoked hams and shoulders, can be transported to and used by the armies in all parts of the world, but the millions of laborers and their families in the industrial centers can, and will, call for other classes of meats, such as beef of various grades and quality.

As a rule the people of the eastern half of the United States have been very negligent in regard to meeting the necessities of the people who desire meat as food. In that portion of the United States east of the Chicago line, sixty-five per cent of the population of the country live, and in that portion of the country west of the Chicago line, seventy-five per cent of the live stock of the country is bred and raised.

Since the stocking of the ranches in the great west during the seventies, the people of the east have not tried to compete very strenuously with the west in general stock raising. For a long period of time stock of all kinds was produced so cheaply in the west that farmers of all classes stopped raising cattle, especially for meat purposes, letting the western farmers and ranchmen have practically a monopoly of the business. That usage has taken on the character of a habit until now it seems almost impossible to arouse the eastern farmers to a sense of their duty in the matter.

Michigan Farmers Should Get the Cattle Raising Habit.

On many farms in many portions of the state of Michigan pasture and roughage has been allowed to go to waste because the farmers were out of the habit of raising cattle for meat. If feeders desired cattle to consume the roughage of their farms it has been a matter of necessity that they go to the stock yards in Chicago to secure what they desired, as such were not available at or near home. Such conditions should be changed and good beef cattle bred and raised on Michigan farms. Prices for cattle are high enough at the present time to awaken attention and cause a revival of the old-time custom of breeding and raising beef cattle. The millions in our cities are calling by high prices and for several reasons they should be supplied. It will certainly be to the advantage of the farmers to raise the stock to supply the demand at the prices offered and a patriotic spirit will be manifested by doing so. And then, by raising stock to consume the roughage the manure can be utilized to increase the fertility of the soil.

Calf Raising Not Popular.

On farms where general farming is followed there are usually a few cows kept to supply the family with milk and butter and to make some butter to sell in the market. The prices in recent years have been sufficient to encourage the making of butter to sell, but for some reason, those high prices

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have not stimulated an increase in production as the supply of dairy butter in the market seems to be very limited. Farmers' wives have fallen out of the habit of making butter for market.

On many farms the trouble incurred to raise calves by hand has been a barrier in the way and the tempting high prices paid for veal calves have been accepted and the beef proposition has been overlooked. The calf raising habit though often urged in the agricultural press, has been difficult to re-establish.

Community Agitation Needed.

At the gatherings of the farmers, no matter whether for social or for business purposes, the subject of raising more cattle to supply the needs of the consumers should be discussed. The thoughts of the members of the community should be directed to the subject. In fact, perhaps no better method of proceeding can be devised than to work together as a community. Beef sires can be secured and cattle of a good, uniform quality can be raised that will not only be a credit to the community, but will be a source of profit.

Boys' and Girls' Clubs.

In different parts of the country, in order to stimulate an interest in the matter of calf raising, calf clubs have been organized and prizes offered to the boys and girls who succeed best in producing one or more calves. The plan is a good one for several reasons. In the first place, it makes calf raising popular and helps to get rid of a "snobby" notion entertained by some that to feed and care for stock is not as dignified as to cut laces and tie ribbons, or some other jobs in which the self-important youths of small caliber in small towns may be employed. In the second place it helps to develop a taste for animals on the farm and sets the boys and girls to thinking and studying the different feeds used and the best methods of handling the same. In the third place, it will help to widen their ideas of manhood and womanhood and give a consciousness of the fact that each and every one is an individual member of the community and that the standing of each in the community depends on the measure of their ability to perform the work which they have undertaken; that life is a battle of brains and ability and not of blood and ancestry.

When looked at from the standpoint of patriotism the dignity and importance of the business of stock raising as well as other branches of farming is considered from the correct angles is as important as any other calling. The hosts at war must be fed because men can only fight on their stomachs, or when their stomachs are full. The hosts which are shaping material required to supply the armies with weapons and other necessities must also be fed, for they also work on their stomachs or what their stomachs hold to nourish them. All of these, as well as the masses in each and every calling that makes up the aggregation of our great population must be fed and the food with which they must be supplied must come from the farms in the shape of meats, grains or vegetables. Therefore it is just as dignified and patriotic to feed and raise calves on the farms as it is to wield a sword or carry a musket.

An Unworthy Suggestion.

There seems to be a tendency on the part of some of the volunteer advisers in cities to urge that farmers should be prohibited from selling or slaughtering young calves. Such a suggestion is wrong. In a practical way we know that a large percentage of the calves dropped, unless sired by good beef-bred bulls, will not make good and profitable meat animals. In other words, they will not be profitable to the producer or give satisfaction to the

(Continued on page 650).

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The **FARM BOY**
and **GIRL**
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

A LONG the line of the D. & M. in upper Michigan there is a place where a range of hills crowds in close to the railroad track. A spring brook, fringed with overhanging brush and choked with fallen tree trunks, winds its way by cedar swamp and open pine burnings, follows the curve of the hills. It is a hard stream to fish, but its deep, under-bank pools, flanked by fine cover for trout, yield rare prizes to the fisherman who may have patience enough to search them out.

"It's the best spot I know of," said Jim Farley when deciding upon a place for a three days' fishing trip with

Beside the Culvert Arch

By EARL ROBERT RICE

his cousin who had come up from Detroit.

"I think we would have a glorious time."

Of course his cousin, Tom Oldfield, assented to the selection. His dreams of the out-of-doors, in contrast to the heat and dust of the city, had for some time featured just such a place as this.

"We'll go out tonight, then," said Jim. "And stop at an old cedar camp a couple of miles this side of the best place

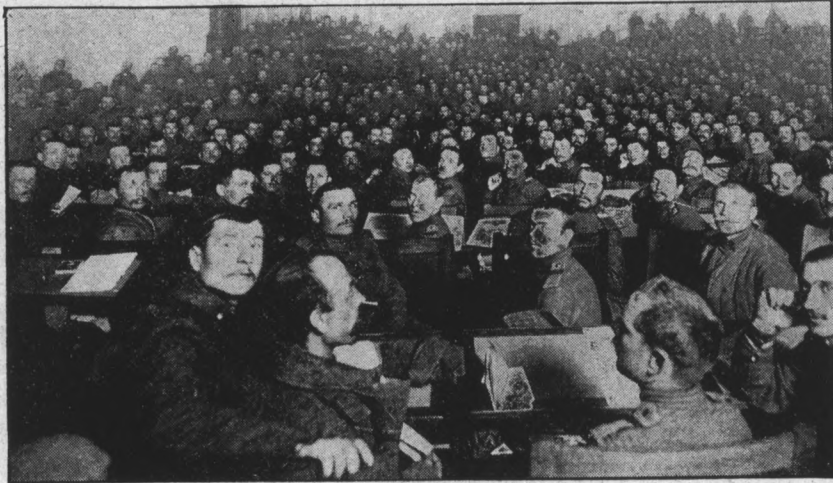
to hit the stream. We can take the six forty, and it's only twenty-five miles. Then in the morning we'll make an early call on the trout."

They reached the cedar camp that night at dusk—dusk of a late July evening. What had been a busy place from last early winter to late spring was now deserted. The shanties of the camp were quiet, and only the long piles of ties near the track, awaiting shipment, and the litter of bark and

shavings around the skidways and along the sidings, told of recent activities. Even the little stream, whose sawdust covered banks ran back to the green of the swamp, seemed asleep, save where it ducked under the railroad embankment through a heavy culvert. The air was hot and heavy with the smell of sawdust and cedar, and Jim, experienced, knew that the sun of clear July days was fast drying out everything it reached, not only in the clearing, but on the hillsides and even in the brush of the swamp.

The boys went to sleep that night in a shanty near the track and not far from the bank of the stream. They

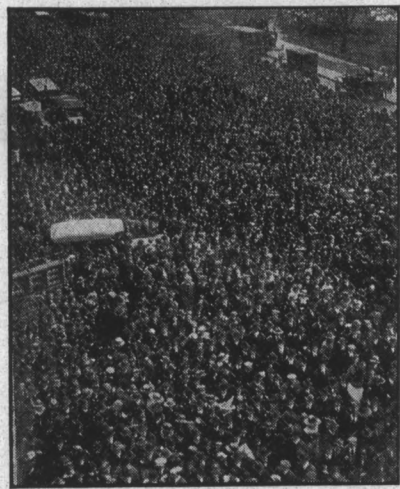
WORLD EVENTS IN PICTURES



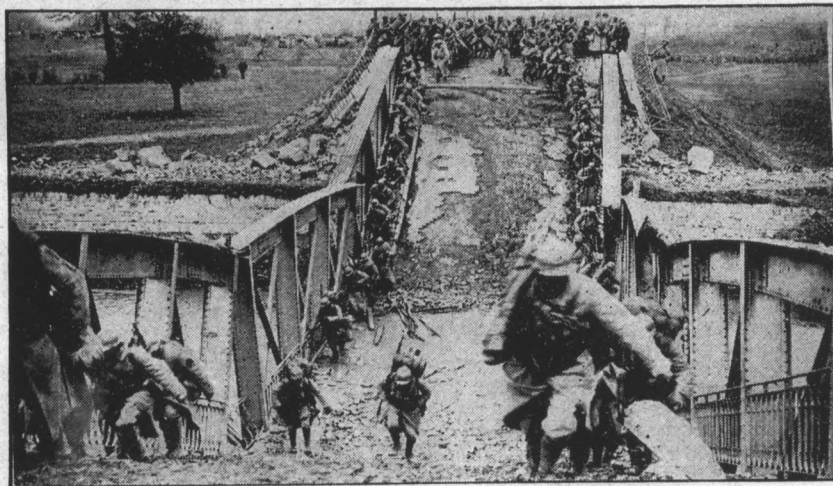
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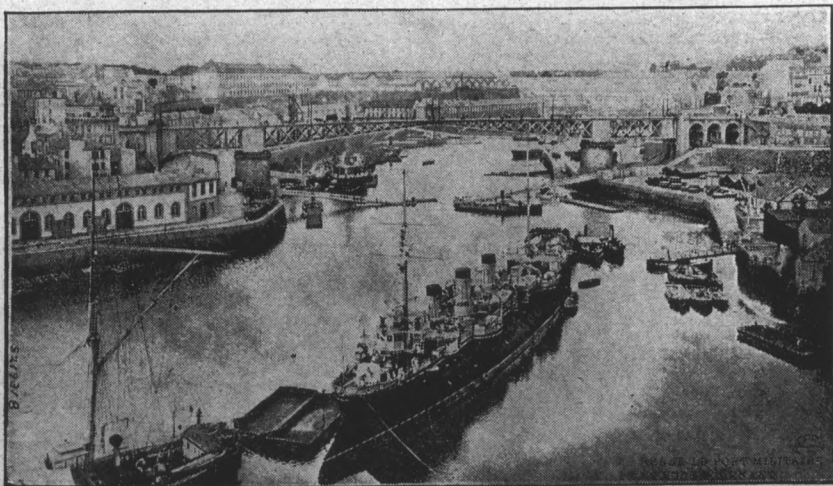
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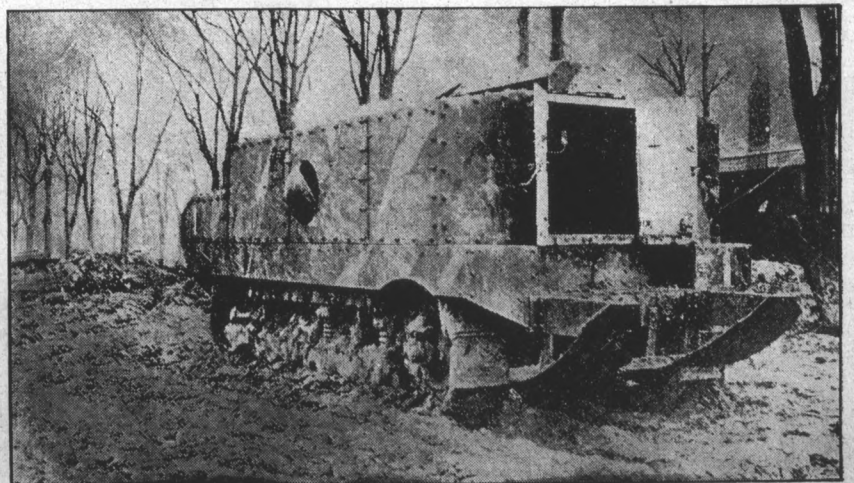
French Advancing on St. Quentin Over Ruined Bridge.



Col. Roosevelt as "Rough Rider" in 1898.



Brest May be Port of Entry for Americans into France.



Type of Fighting Tank Now Being Used by French.

were eager for the morning, and slept lightly. Jim was awakened by the rumbling midnight freight which puffed noisily up the grade beyond the camp. He watched, from an open window near his bunk, the twinkling tail-lights as they disappeared in the darkness. He remembered, next day, that the glow of the train lights came back to him long after the grade had cut off the roar of the engine and the rumble of wheels.

The midnight interruption did for Jim what it does for many a heavy sleeper when disturbed—he overslept. When he finally awoke the camp was red with light save in the shadows cast by volumes of smoke going up from cords of burning ties and piles of shavings and sawdust. Fanned by the light morning breeze one end of the camp was fast becoming a glowing furnace. The fire needed no urging and was making its way steadily along, the fine sawdust, dry as powder, inviting its spread in every direction.

With all thoughts of the day's fishing driven from their minds the two boys rushed out to fight the fire. How it had started they could not tell. They were equally unable to stop its progress. What could two men, with meagre means for such work, do to stop a North Michigan blaze when fairly under way with such excellent material before it? They realized the futility of their efforts almost before they had begun.

"I'd like to see Detroit's big engines tackle this blaze," said Tom, as he stepped back from a mound of dust that suddenly began to smoulder almost at his feet. "It would certainly be a great fight."

"It would," said Jim. "It would take a force of a hundred men to stop that fire!"

"Come on," he said a moment later, "we might as well get our stuff out of the shanty before that catches."

They deposited their outfit at a safe distance up the bank of the stream, and coming back as near as possible, watched the progress of the fire.

By seven o'clock the flames were raging on both sides of the track for a distance of twenty rods, and skidways further back were catching. Sparks had been carried across the little stream, and choked with the pungent smoke, the young men had been powerless to put out the new furnace spots which flared up wherever a burning ember fell.

"It's no use," said Jim, as he staggered back from one of his rushes in for a brave attempt. "It will have to burn out."

"Won't anyone come? Isn't there any help?" panted Tom.

"There won't be any unless it comes in on the train," was Jim's reply. Then he sprang to his feet with a shout.

"There's a morning train from Mackinac, and it must pass here soon."

"I believe she's coming now!" he said, and he listened a moment.

Sure enough, from up the track beyond the top of the ridge came the long whistle of the morning passenger train due to pass the camp at 8:14. A moment later the locomotive topped the high grade and, with a rumble and rush came sliding down toward the fire-smitten camp.

Why the engineer did not stop at a safe distance, why he ran his train in between those burning piles of cedar he could not explain afterward, save that the thought he could make the passage safely and quickly.

Jim and Tom held their breath as the train swept into the smoke cloud which hovered over the track. They watched its progress over the heated path, catching glimpses of the coaches as they passed successive points.

"Don't do it! Don't do it!" shouted Jim in a frenzy. "Oh, Tom," he groaned, "they are slowing down right in the middle of it."

And it was true. To the engineer's

credit be it said he kept his presence of mind, and when he found the heated rails spreading under his wheels he brought his train to a stop and tried to back out.

A half hour earlier he might have been successful in his attempt, but as the great drivers were reversed they spun a moment and then settled between the tracks, hopelessly stalled. The two coaches, with fifty passengers stood equally helpless between two lines of blistering heat and swept with blinding smoke that sought every crack and crevice in a seeming furious effort to reach the inside.

In danger youth is quick to see, and quick to act. Jim noted that the train had come to a stop with the forward passenger car a dozen feet from the bank of the stream. The embankment there was six or eight feet high and its steep sides were fairly bare of litter and material on which the fire might feed. Below the bank was the mason-work of the culvert and along its sides ran a narrow ledge clear out to the water's edge. It flashed upon him that if the passengers and crew could cross the dozen feet of open from car steps to the culvert's edge they might escape through the passage afforded by the course of the stream.

"It's their only chance!" he thought, and to Tom he shouted, "Come on, we'll try it!"

The boys plunged into the stream and made their way to the culvert's

edge, splashing themselves with water as they did so. With dripping clothes they dashed along the narrow ledge and mounted the six-foot bank beside the car steps.

As Jim gained a firm footing ready to swing himself up to the platform, he bumped into the fireman who, blinded and choked, came staggering back from the engine.

"Here!" cried Jim, "dip yourself in the water down there and stand ready to help the passengers through as we send them down!"

The fireman lurched over the edge of the embankment and Tom repeated the command.

Jim leaped upward and burst in the forward door of the car. The front end of the car was deserted, but back toward the rear men and women were struggling to open the door, their only means of escape in that direction.

Seizing the nearest man by the arm, Jim pulled him toward the front, instructing him as they went.

"Stand here, and help the others down. It's all right if you'll stick to it five minutes!"

Together they pulled a woman with a crying child toward the door and a man followed them. They hurried all three down the steps and Tom and the fireman piloted them along the side of the culvert. The woman waded out, carrying her child, and the man, game, stayed to help.

One, two, three, a dozen, came out



Solving Labor Problem for Father.

to safety. The painted sides of the cars blistered, and the windows snapped. The smoke whirled over and around the band of rescuers. Tom's clothing caught fire, but he dashed a bucket of water that someone handed him over himself from head to foot, and lost not a moment's time in his efforts. A child, gasping from fright and heat combined, stumbled and fell, but someone snatched it up and handed it along the line. Passengers reached the steps only to shrink back from the fierce heat that suddenly burst upon them, but firm hands grasped them and compelled them to go on. Every passenger reached the steps safely and the waiting line below, thin-ranked but true to the limit, steered them through to the water. Long before all from the first car were out the second car was opened and its helpless inmates were started through vestibule and aisle toward the front.

"This way out! This way out!" shouted Jim, and the line pressed forward. Half blinded, hurrying, stumbling, men and women emerged from the cloud of smoke and fire over the track and splashed out to the bank beyond.

The last to come was Tom who had bravely stood at the culvert's edge through that hot five minutes. Jim and the conductor supported him on either side.

"I'm all right now," he panted, as they reached the water's edge. "But say, if ever water was put in the right place, this creek is the one."

"That's so," said the conductor, as he watched his train burn to a mass of curling iron and steel. "There's not a life lost, thanks to the creek, and—and to you boys."

THE SOLDIERS' MEMORY DAY.

BY CLELLA M. FISH.

As oft as the Maytime blossoms
On the graves of our heroes are laid,
And the slow, measured tread of the
marchers

Halts as each debt of tribute is
paid—
So oft do our thoughts deal with cour-
age—

Yes, often the story we tell
Of the soldier who, loyal to duty,
From the ranks of his comrades fell,

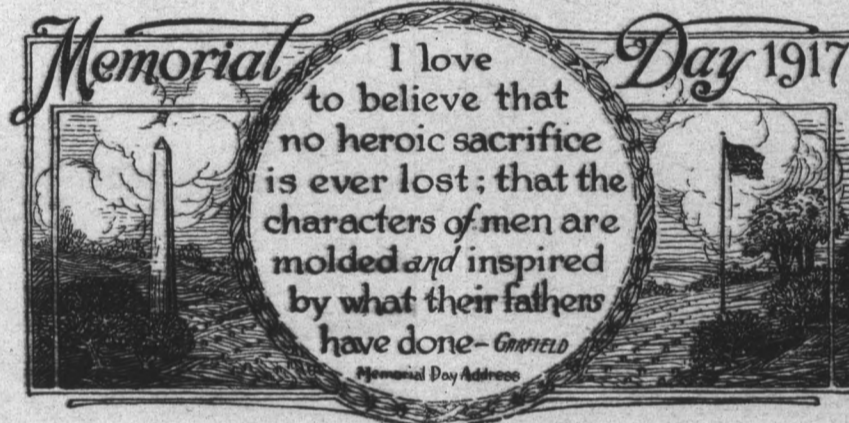
And what of the living soldier?
He, too, heard his country's call,
But returned from the field in honor,
Thought with gold—ah, none at all.
And though worn by the raging con-
flict,

And torn by shot and shell,
Has since fought in other battles
Than that where his comrades fell.

So the years pass in quick succession,
Ever filled with the conflict's din,
But bravely the silver-haired vet'ran
Fights on—yes, and fights to win.
And his locks grow white and still
whiter,

Yet naught can his bravery quell—
He honors his country as truly,
As though from the ranks he fell.

And so when the Maytime blossoms
Are placed on our heroes' graves,
Reserve but a wreath of laurel
With the flag that so gently waves,
And crown then the living soldier,
Who has fought for his country well,
But who also has lived like a hero
In the days since his comrades fell.



In Memoriam

By M. B. RANDOLPH

TODAY, my heart is over the sea,
Far over the big blue brine,
And in my throat all anxiously
I'm seeking laddies mine.
Fair English lads with eyes of blue,
And England's rose on either cheek;
And tho' I call they do not hear
Or if they hear they will not speak;
Perchance the awful crash of war,
The dying shriek,
Their answers draws, now Greek
meets Greek.

Perchance on inland battle field
For cooling draught in vain they've
cried with fevered lip;
Perchance the Union Jack has waved
above their sinking ship;
Alas! Alas! I cannot tell,
But the despairing east wind off the
sea,
Seems ever more to bring to me
A dirge, a funeral knell;
And so these words on mem'ry's mar-
ble carved
Full oft I read, they are no sham.
The sad words, In Memoriam.

Once I posed as teacher:
Taut reins I held in public school;
But these were manly laddies
Needing neither rod nor rule;
I see them yet—their blue eyes wide
O'er young Columbia's lawless stride
Or slouching gait they walked beside:
Down the long halls they kept the
pace
With perfect step and boyish grace
Born to the manner quite were they,
With many a gallant air, and little
courtly way
That won my heart at sight and
hold it still today.

A cultured, tho' a cottage home
These lads could claim;
Soft of speech and bearing he
Who sat at table's head and gave
them name;
And she who sat beside the urn?
Most gracious, smiling dame;
But our loud western ways
Their spirits seemed to shock,

And back to Albion's shores they trac-
ed their step
And laddies took.

And now that other one—that thoughtful
German lad;
A man's wise brains on youthful
shoulders carried he;
So careful of my comfort when other
boys were had,
For aching head prescribing remedy;
Where is he now? The waves of east-
ern sea
Fling back my call, or lash the un-
responsive shore,
Tossing their white caps mockingly
While they repeat it. Where, oh,
where is he?

Has he, too, turned to fatherland?
Or does he still remain
In our far-famed "melting pot"
Bearing hyphenated name?
Long years ago he drifted from my
sight,
I know not how or where he fares,
If loyal to the Stars and Stripes,
Or Iron Cross he wears;
If on his brow the dews of death
Or breathes he yet our troubled plaan-
et's breath;

This or that I ne'er shall know,
The veil that hides I cannot rend;
And yet on memory's marble penned
The words I read are still no sham,
The sad words, In Memoriam.

And then those Russian Jews;
Dear lads I see them yet;
The dark rich roses on their cheeks,
Their eyes of jet;
What prompted gifts they gave to me?
Not love methinks—I so austere—
Perhaps the fine philanthropy
That racial trait of which we hear;
It matters not within my heart
Their boyish gifts I still hold dear.
Where are they now? To manhood
grown
Have they returned to aid their kin
Who betwixt the warring hosts
Now here, now there have helpless
been?
God only knows, but yet no sham
My sad words In Memoriam.

"Contraband" RANDALL PARRISH

Synopsis of Previous Chapters.

Mr. Hollis, a business man of Chicago, and formerly a sailor, accepts an invitation to go on an ocean cruise with his old friend, Mr. Carrington, and several of New York's leading financiers. On the eve of the breaking out of the great European war they start on the Esmeralda. About midnight of the first day out the engines suddenly stop and Hollis, true to his sailor training, leaves his berth to learn the trouble. He discovers soon that nothing serious has happened, but in a walk about the deck he spies a woman who suddenly disappears. The sincere declaration of the host the next morning that no woman was aboard did not convince Hollis that his eyes played him false, and the second night out he alone discovers and converses with what proved to be a cultured and most charming young lady. During a cold, driving rain on the night following, the "Esmeralda" was rammed and her forward decks crushed in by some unknown ship. Many of the crew and guests were killed or imprisoned by the impact. Hollis persuades another guest, McCann, to go with him to rescue the girl, who was hidden somewhere below. The effort which nearly cost the lives of the men and left them quite exhausted, was successful.

After a desperate struggle the three persons reached the open deck and worked their way aft where they discovered that the remainder of the guests and crew had abandoned the wreck, being taken, no doubt, aboard the steamer which had ran them down. A moment later Vera located a small dory and by its use they were able to escape from the rapidly sinking yacht. This was not accomplished without Hollis issuing stern orders to McCann, who promised to make trouble.

"You need have no fear for me," I answered reassuringly, and ventured to touch her hand where it rested on the thwart between us. "I have been a bucko mate, my lady, and learned how to handle his kind. If he ever draws a gun on me out here, I'll teach him something he never learned in yet in Wall Street."

The hours of that day fairly dragged along, as we stared out dull-eyed on the same vista of sea and sky. Twice we thought we caught the gleam of a sail over the tumbled waters, only to discover the object to be a floating cloud. Once smoke became visible to the southeast, a thin wisp, barely showing against the distant blue; but the steamer passed us unseen below the horizon. McCann, so far as I observed, never so much as glanced in our direction, but faced forward. He found a package of cigarettes in his coat pocket, and smoked two without offering any to me. Finally he lay down in the bottom of the boat, tossing about restlessly for awhile, but, at last, falling asleep.

The girl and I talked, avoiding as much as possible all reference to our situation, and the fate of the yacht, our conversation drifting here and there. In a way I learned much about her, little hints of disposition, likes and dislikes, as well as experiences in life, yet nothing was said which revealed her identity, or helped to solve the mystery of her presence on board the Esmeralda. I could not feel that she purposely concealed these things, yet nothing led to an explanation, and I rather avoided the subject through fear of offending her. I did learn, however, that her mind was bright and original, her language evidencing education, while her reminiscences proved that she had traveled widely, and seen much of social life. We spoke of books, of art, of drama, and she exhibited even a wider range of knowledge on these subjects than I possessed, while her comments were keen and original—not pedantic, nor bookish in any way, but the outspoken frankness of young womanhood. Indeed, she was wholesome all through, her face a mirror of her nature, her eyes reflecting back each mood. Never before had I

met one of her sex so deeply interesting, so unconventional and plain-spoken. No doubt it was the way in which we had been thrown together which had broken down thus completely the social barriers; but, be that as it may, the result was admiration on my part, which, perhaps, I did not wholly conceal.

However, our conversation lapsed at last, through sheer weariness on my part. I had been at the steering oar so long, staring out into that drear expanse of ocean and sky, that every muscle of my body ached, and my eyes could scarcely be forced to remain open. In the silence she must have noticed this, for she exclaimed suddenly:

"Why, I never thought; you must be nearly dead with fatigue. Let me take the oar while you sleep."

"I am afraid I shall have to," I admitted, "for I must keep awake tonight. There is no sign of storm now, and the sea is even less rough than it was an hour ago. You feel competent?"

"Why, of course; you saw me steer. If anything goes wrong I can call you easily enough. Please lie down for a few hours."

I looked about, permitting her to grasp the oar, and slip into my seat.

"Really I feel as if I must," I said regretfully, "and there can be no danger while things keep as the are now. Call me, though, if there is a change in the weather, for that jury mast will never stand any weight of wind."

"I promise; but I am a better boatman than you think."

I lay down, pillowing my head on my arm, but remained awake some little time, watching her movements. She handled the boat easily, however, and her calm coolness gave me such confidence that, insensibly, rocked by the gentle rise and fall of the craft, I drifted off into unconsciousness.

I must have slept for several hours undisturbed for, when I finally opened my eyes once more the sky above us was beginning to turn purple with twilight, and the breeze had failed, so that the sail flapped idly against its improvised mast. This, perhaps, was the noise which had aroused me. I sat up, wide awake instantly, and stared about me in the boat. There was little change noticeable; Miss Vera still clung to the steering oar, showing no outward signs of weariness, and greeted me with a smile and nod of the head; but McCann had moved forward, and sat playing idly with an open jack-knife. I had a glimpse of him beneath the makeshift sail but if he saw me rise he exhibited no manifestation of interest.

"I bear testimony that you slept well, Mr. Hollis," the girl said cheerfully.

"I did not realize until I lay down how weary I was," I replied, adopting her manner, "but really you had no right to let me lie so long. Why, I must have been sleeping three or four hours, and you will be tired out."

"Oh, no; it was no trick at all. The wind kept steady until just a few moments ago, and I do not feel in the least fatigued."

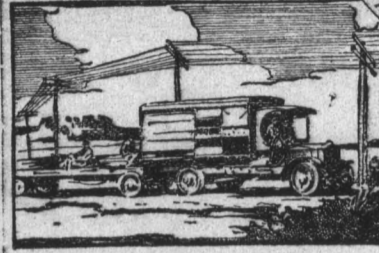
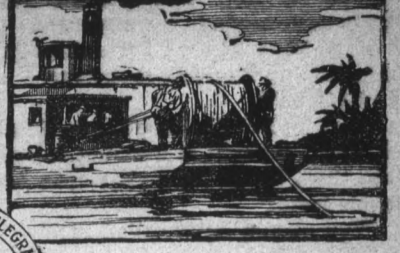
"And you have seen nothing, no smoke, no sail?"

She shook her head, her eyes grown grave.

"Not a thing; we seem to be absolutely alone in the immensity of the sea—just one great wave after the other. It—it gets on the nerves."

"It certainly does; such a sight has driven more than one insane. But what does this mean? Why is the biscuit bag out here?"

I pointed to the bottom of the boat,



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28x3 1/2	Goodyear	7.50	12.50
28x3 1/2	Firestone	6.75	11.25
28x3 1/2	Continental	7.00	11.25
28x3 1/2	Goodyear	7.50	12.50
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beyond her feet. Her eyes met mine, her answer made in a whisper.

"He—he crept back here while I was adjusting my oar, and took two."

"McCann?"

"Yes, he had the bag before I noticed, and I thought it best not to anger him then, for he held that open knife in his hand."

"You should have called me."

"The mischief was done before I had any time. Besides I knew you needed the sleep. What are you going to do?"

I smiled a bit grimly, glimpsing him beneath the sail.

"I am about to give Mr. Fergus McCann, late of New York, a little specimen of sea discipline which I hope may last him for the remainder of this voyage," I replied quietly. "He ate the biscuits, I presume?"

"Yes, slowly, morsel by morsel, as though he was really hungry. You must be careful; you know the man is armed."

"The more reason why I should attend to him now; he is a constant peril to both of us as long as he retains that gun—it gives him courage to do just as he pleases. Hold the boat steady, Miss Vera, and leave me to attend to this degenerate son of wealth."

I crept forward, scarcely jarring the frail craft, and was beyond the jury mast before the fellow had aroused sufficiently from his knife play even to note my approach. He stared at me insolently, leaving the keen blade trembling in the plank. No doubt he had expected some such call, and had decided on his course of action. The expression of his face—defiant, sneering—as he stared back scowling into my eyes, told me instantly what he proposed doing. He was armed; he would show me who was to give orders.

"McCann," I began, wasting no time in preliminaries, lifting myself on one knee, and facing him, "the young lady says you took advantage of my being sound asleep to help yourself to biscuits; is that so?"

"Well, what if I did? I was hungry."

"So am I; so no doubt is the lady, for the matter of that. Hunger is no justification for stealing. You were not starving; you received exactly the same share we did. More than that, I have assumed command of this boat, because I am the only one on board knowing the ways of the sea. I told you plainly what you were to do, and I propose to enforce my orders. Not another bite will be given you today, or tomorrow."

"Is that so?" he drawled, a wicked smile revealing his teeth. "You must think you are dealing with a foremast hand. It takes something besides threats to run me, Mr. Robert Hollis."

"Threats are not my stock in trade; whatever lesson you are due for you are liable to get. Understand this clearly, for I shall not repeat it—you obey my orders, or take the consequences."

He half rose to his feet, but I forced him back onto the thwart none too gently. His face was red with passion, his eyes malevolent.

"Take your hands off me!" he snarled. "No blustering sea bully is going to make me jump at the crook of his finger. You touch me again, and I'll show you who I am, you big brute. Me take orders from you? Why, I've got more money in New York than you ever saw."

"If you owned the Bank of England it would mean nothing to me. You will do what I say, or I'll make you."

"You will, how?"

"No matter how; I've trained more men than you to obedience in my time, and always found a way."

"Huh! the bucko-mate business, hey?" he sneered. "Well, just try that on me, if you think it safe. I'll show you—"

His hand darted back toward his hip

pocket, but I was looking for the movement, and ready. His fingers had barely gripped the butt of his weapon when my clinched fist crashed into his face. I have struck harder blows, for I was not poised to put my whole weight behind it, yet the man went over as though felled by an axe, and lay huddled in the bows, quivering like a jelly fish. I jerked the revolver from the grip of his hand, dropped it into my pocket, wrenched the open knife from the wood in which it stuck, and closed the blade.

"Get up now, you fool," I ordered sharply. "Oh, yes, you will," and I gripped him by the collar and lifted him roughly to his knees. "That is likely to be the last time you will ever attempt to pull a gun on me. Make another movement, McCann, and I'll throw you overboard. Now listen; you are no Wall Street broker at present; you are merely a foremast hand, and I'm your master. You better get that idea into your head right away. You take your orders from me, and you jump when I speak, or I shall take pleasure in breaking every bone in your body. Do you understand that?"

I doubt if he could see out of one eye, but the other exhibited a terror almost pitiable.

"Y—yes."

"Say sir, when you speak to me."

"Yes—yes, sir."

"You'll keep to this end of the boat hereafter; whether I am asleep, or awake, you stay forward of the jury mast."

CHAPTER IX.

We Sight a Tramp.

THE one blow, coupled with the loss of his weapons, had so completely cowed the fellow, that I scarcely gave him another thought. He had been bully all his life, protected by wealth and position, but had sense enough to realize that these things did not count for very much alone with me in an open boat at sea. No doubt he would hate me, and plan revenge, but for the present, at least, there would be little opportunity for those plans to assume definite form. Once safely ashore, and amid his own kind, he would scheme to crush me; but until then I could ignore his very existence, except to enforce my orders. I crept back to the stern, and took the steering oar, the girl's eyes meeting mine questioningly.

"I could not see all that occurred, because of the sail," she said. "You disarmed the man?"

"Yes, I have his revolver in my pocket, and the knife also. He will make no more trouble; the fellow is an ardent coward, but no less dangerous on that account. Come, we will divide a biscuit between us, and then it will be your turn to lie down."

"But doesn't McCann have any?"

"He has had more than his share already. I'll offer him a swallow of water—that's all. I imagine the way his head feels, he has forgotten all about being hungry."

"You had to strike him?"

"Slightly, a mere tap of sea discipline," and I glanced at my knuckles. "He was armed, you know, and I could take no chances. There is no harm done. Come; are you not tired enough to rest?"

She glanced up into my face.

"You will call me at midnight, if I fall asleep?"

"If I feel worn out then, and the sea keeps as it is, or no worse. There, take my coat for a pillow. No, really I shall not need it; this is an ideal summer night. Did you ever see the sky more glorious with stars?"

"They only make it all appear more lonely, and fearful," she said thoughtfully. "I never realized before the awful immensity of this vast ocean. Why, do you know, I thought of it as covered with ships, yet we have floated all night, and all day long, without sight

of either smoke or sail; nothing to stare at, hour after hour, but sea and sky."

"We are out of the track of ships." "But do you still believe we will find one?"

"I have every faith in the world," I answered heartily, determined to conceal my doubts. "If the weather holds pleasant, we should be far enough south by morning to be in the North Atlantic lane between New York and Liverpool. We are fully fifty miles now from where the Esmeralda went down, and there must be ships aplenty in these waters. Of course, I can only guess at our position, but I know within a few miles of where we are. Lie down and rest, Miss Vera; there is no sign of any storm brewing, and tomorrow you'll probably have the deck of a liner under your foot."

I know not how much she may have believed of what I said, but she smiled me a cheerful good-night, and lay down in the bottom of the boat, my coat folded under her head. She rested there motionless, her face shadowed by one arm, and very soon her regular breathing convinced me she slept like a tired child. I looked at her shadowy figure; then forward to where McCann hung silent in the bows. It was a dreary picture, that little cockleshell, tossing up and down on the surges, the vast expanse of black, limitless water on either hand, and overhead the infinite spaces, decked with glittering stars. It seemed as though some spectral hand clutched at my throat as I stared about the drear desolation gripping me like a delirium of fever. What if we should not overhaul a ship? What is some evil fate would permit of our floating on unseen? It was all guesswork as to where we were; we might be leagues yet from familiar waters, for I had no guide except sun and stars, and a vague memory of our position the noon before the yacht sank. And there were few eatable biscuit left, and barely a cupful of tepid water. The thought of what the end might be nearly crazed me, as I sat there alone in the silence and gloom—I could picture those final hours of despair, as we lay starved and helpless in the unguided boat, the girl mercifully unconscious, perhaps, and McCann a gibbering idiot. But I must stop thinking! I must be a man for her sake; aye, and retain my self control, so as to do a man's work to the end.

The wind strengthened, not blowing steadily, but in little puffs from the east. I trimmed the makeshift of a sail as best I could, knowing it would be useless to arouse McCann for such a sailor's job, and headed our course to west of south, as closely as I could judge direction by the stars. An hour later we were bowling along at a fair rate of speed, the little dinghy laying down to it, the black water lapping her port gunwale, and a fine line of foam stretching astern. She was a cranky craft to control with a heavy steering oar, and I had small faith in the lashings of my improvised mast, which might go by the board at any minute. The action and the anxiety were the very tonic I needed, however, and my mind cleared with the struggle.

At midnight the wind was at its height, and I did not call the girl, as I dared not trust her to steer the craft through such rough water. She slept undisturbed, not even changing her position, a mere dim outline at my feet. Forward McCann had stowed himself away beyond the bow thwart, and I could see nothing of him under the bight of the sail. I was the only one awake in the leaping boat, fighting its desperate way through the black waters under the dull gleam of the stars. With straining eyes I held on, forgetful of all else except duty, thrilled, and exhilarated by this life and death struggle with the sea. Occasionally a slapping wave showered me with salt spray, and once we shipped a bucket of water amidship, yet, all in all, the

laboring dinghy proved herself a fair sea boat, and I held on grimly, driving her through the smother, until the dawn gave me view across the gray expanse.

McCann being first aroused, crept out of his hole, and seated himself where he could stare back at me. One eye was completely closed, and encircled with a black ring, and after a minute he began to bathe the bruise, dipping up water from overside with one hand. He did not speak, nor did I offer to address him. He had proven such a despicable poltroon that my desire as far as possible was to avoid all possible contact. The sun had begun to show above the horizon before the girl finally awoke, and sat up in the bottom of the boat, staring about, startled by the change in the aspect of the sea. Finally she lifted herself to the nearest thwart, and greeted me reproachfully.

"You have let me sleep all night, and lying on your coat. Why, you are wet through."

"Nothing but a dash of salt spray; the sun will dry me out in an hour," I explained. "There was no reason why I should disturb you, Miss Vera, for the sea has been running too high to permit of your handling the boat."

"But you must be tired nearly to death."

"Far from it; and we are to be blessed with another day of sunshine. Perhaps by afternoon the sea will have gone down, and I can get a nap. Are you ready for breakfast?"

My explanation did not satisfy her; I could read that in the expression of her face, but she made no further protest.

"There have been no ships—nothing has happened during the night?"

"Not so much as a shadow to arouse suspicion; but I hope much from these hours of daylight."

"You believe we are now in the track of any ocean steamers?"

"To the best of my judgment we are close to the lane of inward bound liners. Of course, it is mostly guesswork, but I have a sailor's instinct."

She drew out the biscuits from the locker, broke one in two, and handed the half to me. Still clinging to the bag, her glance fell upon the slouching figure of McCann in the bow, and then her eyes sought my face questioningly.

"You are not going to offer him any?"

"He deserves none; he has already had more than both of us together. How many are left?"

"Seven fit to eat. But—" she hesitated, yet went on bravely enough, "please, he is not accustomed to being deprived of food, and is really suffering. Let him have my share, for I am not at all hungry—truly I am not."

"I shall insist on your eating," I said, almost sternly. "Your share is little enough to sustain life. If it comes to a choice between saving you, and that miserable thing yonder, my course is taken. However, I grant your request now, although I doubt if he shows even gratitude. McCann."

He lifted his head, and stared aft, but without changing his attitude.

"Here is your ration. You do not deserve a bite, nor would you receive any through me. You owe this to the lady—catch it now."

He picked the half biscuit up from the bottom of the boat, where it fell at his feet, and began nibbling at it, like a famished dog. There was no sign of thankfulness in his action, and he continued to glare at us with one eye open in sullen insolence. Anger overcame the small measure of sympathy I felt for the fellow.

"You see, Miss Vera," I said bitterly, "he is too much of a brute to even appreciate your kindness. The fool even imagines I am afraid of him, and do not dare enforce my orders. There is only one way to handle his kind."

"Yet I am sorry, Mr. Hollis," she answered softly. "I could not bear to

think of him sitting there all day with nothing to eat. Because I do not like the man, is no reason why I should wish to see him suffer."

The recollections of that forenoon are not altogether distinct in my memory. I was weary and sleepy, yet dared not desert the steering oar, for the sea ran strong, and the wind struck us in sharp gusts. The shining water, sparkling under the sun's rays, blinded my eyes, and altogether I was in no mood for assuming a cheerfulness of demeanor I was far from feeling. Yet I dare not confess the truth and add to the despondency of the girl beside me whose eyes never seemingly left the line of the horizon; yet who, as the leaden hours slipped by without reward, began to droop perceptibly, and ply me with questions I found hard to answer. We talked little, for our stock of commonplaces was completely exhausted, and our minds centered only upon one thing—the possibility of rescue. Indeed, her palpable efforts at cheerfulness hurt me more than her silence, they were so plainly assumed, and, when she glanced up at me, I could perceive the lines of hopelessness in her face, and the pleading of her eyes. There was no coward in her nature, no shrinking; never had I been companion with a braver soul, yet she already realized fully the desperation of our situation, and no words of mine brought comfort, or lasting confidence. McCann remained like one stupefied; never changing his posture. He had turned his back upon us, and faced forward, but whether to keep watch, or doze, I could not determine, for his body was slouched down into utter shapelessness.

The sun blazed down upon us out of a clear sky, glistening along the foam of racing waves, but as noon approached, the southern sky became misty, the clouds increasing in density until we could see only a few hundred yards beyond our bow. It was not a storm cloud, and brought with it no fear of disaster, but completely blotted out the horizon, and gave a dark, sullen gloom to the surrounding waters. I had permitted the boat's head to fall off, and, with barely steerage way, the makeshift of a sail flapping against the mast we rose and fell on the giant surges.

It must have been three o'clock when McCann suddenly gave vent to a startled roar, straightening to his knees, and pointing straight ahead into the smother. I stared, but saw nothing except the grotesque forms assumed by the whirling mist, but Vera leaned out over the side, shading her eyes. "What is it?" I asked sharply.

"A ship yonder!" he shouted, but without turning his head. "I saw it plainly enough, but it has gone now." "I see it, Mr. Hollis!" the girl cried excitedly. "Right out there through that lane of mist—it's a big steamer!" "Straight ahead?"

"Just a little this way—there! you can see her now!"

I did, a mere glimpse, instantly obscured, but visible again a moment later. The fog seemed to drift apart, leaving a broad lane, and in the very center appeared the steamer, looking a mammoth to our eyes, and already so close that my first impulse was to hail. But before I could put this into execution, McCann was on his feet, gesticulating wildly.

"Now, hang you!" he shouted, "put us on board there, and I'll show you who I am. You brute, I dare you to put us on board."

"Sit down!" I ordered. "Now, keep still, and stand by with that rope. I'll put you aboard all right, but until I do, you will obey what I say, or go into the water."

I took my eyes off him, and stared at the vessel, conscious instantly that something was wrong. Every detail was clear by this time, each rope and spar traced cleanly against the brown background of mist. She was appar-

ently a big steel freighter, four thousand tons I guessed her, her water line showing a heavy cargo, and her bows red with rust where the black paint had disappeared. Loaded as she was, the steep sides yet towered above us menacingly, although the open rail amidships gave me glimpse of her deck. It appeared deserted, and the vessel scarcely moved through the water, a mere spiral of smoke showing above one yellow funnel, a single screw churning lazily to keep her under control. The foremast was broken off at the tops, remaining a great splinter, and where the bridge and wheelhouse ought to be there was piled a mass of wreckage, showing black above the bulwarks. A wheel had been rigged aft on the poop-deck, and there alone I saw evidence of human beings on board. One fellow stood gripping the spokes, while another leaned motionless against the rail facing forward. Neither one saw us, although I swung my hat, and sent a hail across the intervening water. The girl glanced back into my face.

"What is the matter with them, Mr. Hollis?" she asked. "Is something wrong?"

"I am afraid so; their foretop mast is down, and it looks as though it had smashed the bridge and wheelhouse when it fell. They have rigged up an emergency wheel aft. Can you make out her name?"

"The Indian Chief, of Philadelphia." "No regular liner—probably a tramp. I never saw funnels painted like that before, and she shows no flag. However, any port in a storm."

I stood up, hollowing my hands. "Ahoy there! Indian Chief, ahoy!"

CHAPTER X.

On Board the "Indian Chief."

THE man leaning on the after rail turned, and gazed down at us, shading his eyes, and the heads of a half dozen others bobbed up above the forward bulwarks. I could see the fellow aft plainly now, a broad, stockily built man, with extremely red face, wearing overalls, and a woolen shirt, open at the throat. In appearance there was nothing of the officer about him, yet it was his voice which finally answered my hail, sending a deep, roaring note across the waters.

"Hullo, there. Who are yer? From some ship close by?"

"We are passengers from the American yacht Esmeralda, sunk in collision two nights ago, and have been afloat ever since. Can you take us aboard?"

"Passengers, you say? All of yer passengers?"

"Yes."

He turned, and spoke to the man grasping the wheel, a tall, loose-jointed fellow in straw hat and pink shirt. There was a moment's argument before he returned to his position at the rail.

"I dunno as yer would be much better off along with us than yer are thar in the dinghy," he called indifferently. "For, in a manner o' speakin', we're no more than a wreck. I reckon thar ain't no one among yer who knows how to navigate?"

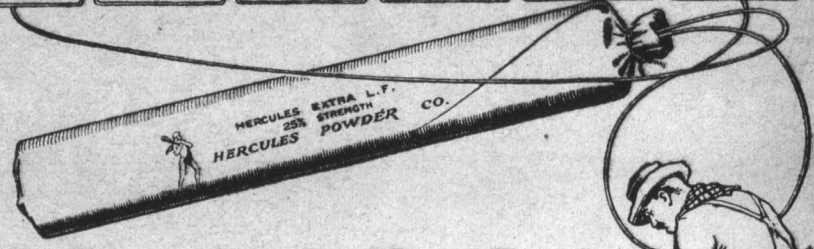
I stood up, hollowing my hands to make my voice carry more clearly.

"That is not a very sailor-like speech my friend," I shouted, yet striving to conceal anger. "But as you put humanity on those terms, I'll answer you. I have been in the merchant service, and commanded ships."

"Is that so? Sail or steam?" "Steam—the old Atlas Line. Do you take us aboard?"

He did not answer directly, but had lost his air of indifference, striding forward to the end of the poop, and giving orders to the men forward. The black heads adorning the fore-castle rail disappeared, and a moment later the round, red face again appeared.

(Continued next week.)



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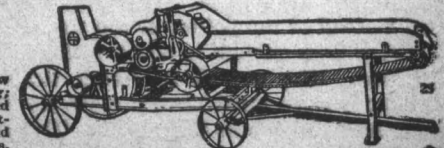
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Woman and Her Needs

At Home and Elsewhere



THERE are five ways to can fruit, known technically as the open kettle, or hot pack method, the cold pack single period method, the cold water method, the intermittent, or fractional-sterilization method, and the vacuum-seal method. All of these are right in their way, but one of them is best for the housekeeper. Which one that is and why, may be told when we stop to think of just what is involved in each way of canning.

The open kettle, or hot pack method, is the good old way of cooking the fruit in the preserving kettle on top of the range, then packing it at once into scalding hot jars and sealing as quickly as may be. This method kills the bacteria present when the fruit is cooked, but leaves time for fresh bacteria or spores to enter the fruit after it is cooked and before it is gotten into the cans. Careless housekeepers, too, sometimes fail to sterilize can, top and rubbers sufficiently and the fruit thus put up spoils. It necessitates careful watching while the fruit is cooking on a hot stove, and is not a successful way to preserve the natural color or shape of delicate fruits. Neither is it successful in canning of vegetables.

The cold water method is only in canning very acid fruits whose natural acids are a preservative against bacteria, such as rhubarb, green gooseberries and perhaps cranberries. This means to pack the uncooked fruit into sterilized jars, and cover with cold water, then seal tightly. The fruit should first be looked over, washed and put into a colander where scalding water is quickly poured over it. It is then packed at once and the cold water poured into the cans to overflowing. If you have running cold water it is a good thing to slip the cans under the tap and let the water run for at least ten minutes. The cold water method is a good one for putting up rhubarb for pies, as it needs neither cooking nor sugar and takes less time than the cold pack method, with which it must not be confounded.

The cold pack, single period method, is the one now coming into favor among housekeepers who like to preserve the shape and color, and as nearly as possible, the natural flavor of the fruit. In this way the fruit is first blanched, which means it is immersed in boiling water for a certain period, the correct time for various fruits and vegetables to be given in later articles, then quickly removed and dipped in cold water. After blanching the fruit is packed at once in cans, hot syrup poured over them, the rubbers and caps adjusted and the cans placed in boiling water of sufficient depth to cover the cans one inch. A wash boiler may be used for this and a wooden rack made to fit the boiler and lift the cans off the bottom so that the water may circulate underneath. Of course, the rack must be fitted with handles so that it may be safely lowered into the water and raised again when the cooking is finished. Lard cans may be used instead of the boiler, or the roaster if it is high enough to accommodate the cans. The utensil in which the cooking is done must have a tight fitting cover to keep in the steam. The time of cooking varies with the sort of fruit or vegetable to be canned, and the correct time will be given with individual recipes. The fruit will keep

Various Methods of Canning

as well if the syrup is entirely omitted. In the intermittent, or fractional-sterilization method, the fruit is packed cold into sterilized jars, as for the single period method, but without blanching and dipping in cold water, and is then cooked for certain periods on three successive days. This gives good results, but takes much longer, requires more fuel and labor, and is rather discouraging for busy people. Its results are no better than the single period method, if the fruit or vegetable is first blanched and dipped in cold water.

The object of three successive days' cooking is to remove flavors and acids which are objectionable, and this may be done by blanching. Blanching will not specially harm the natural color if the fruit is immediately dipped into cold water. The dipping also hardens

spring is left up until cooking is completed, then pressed into place.

The single period is better for the housekeeper than cooking on three successive days, as by first blanching the fruit or vegetable to be cooked and then sterilizing, the same result is obtained as by packing without blanching and cooking three times, and with much less time and work.—M. A. L.

PREPAREDNESS AND THE SPRING SEWING.

BY LULU G. PARKER.

"You always get such a lot of sewing done when Miss Smith comes to your house. Last year she made twice as many dresses for you in the same length of time as she did for me. How do you do it?"

That is what folks ask my neighbor

equipment which costs very little but which keeps her from wasting time after the sewing is under way.

If she had a room to spare she would make it a sewing-room and keep it sacred to sewing. (But lacking this she turns a bed-room into a sewing-room for sewing week). Here the sewing is done without the necessity of clearing up and folding away the work before it is completed. Here she moves the sewing machine and cleans and oils it thoroughly, trying it out on a scrap of the material which is to be sewed first, and adjusting the stitch and tension. The machine should stand out from a window so that the operator can sit with her back to a good light.

The sewing room has a trunk or old bureau which holds all the material, linings, hooks and eyes, buttons, etc. Patterns are all in a bag which is hung in an accessible corner. Fashion papers are looked over and plans made beforehand as far as possible.

The thread is kept on a home-made spool-holder which sits within reach of the sewing-machine. This spool-holder is a small smooth board with brads driven through it and extending out one and one-half inches. The spools are set over the brads so that thread can be drawn without removing them.

There is a scrap bag or big waste basket near the machine or the table. A work table is another necessity. This should not be the dining-table because it will cause too much delay to clear it three times a day. The ironing-board will do for a cutting table, but is rather narrow when cutting clothes for grown-ups. A regular folding sewing-table is not expensive and will pay for itself many times, as will a sleeve board for use in pressing the new work. A big old mirror is a useful thing to have in making fittings.

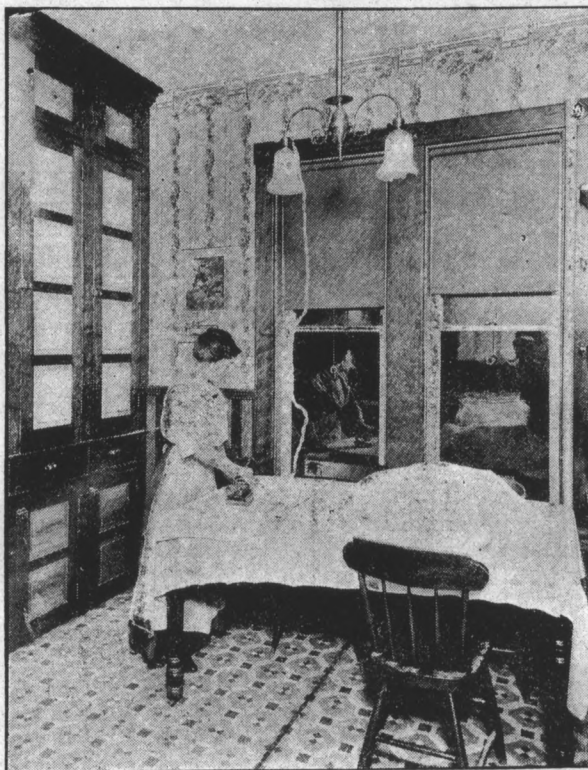
Then plenty of pins, needles, basting thread, a bit of chalk and a soft pencil or charcoal stick for marking through the perforations of patterns, a sharp knife for ripping, and a tape measure may be arranged in one draw of the machine.

Clothes that are to be made over are ripped, cleaned and pressed before the seamstress arrives. The dressiest gown is made last, so that its planning can be talked over while fingers are busy with other work that requires no discussion.

Our neighbor across the road works with the sewing girl. She bastes and does hand work, sews on hooks and eyes, draws the bastings, even cuts out after the pattern has been pinned to the goods. In fact, she gives her whole time to the sewing while the girl is in the house.

For this reason the meals are arranged beforehand as far as possible. Baked beans and brown bread, a New England dinner of corned beef and cabbage boiled together with other vegetables, all started at breakfast time, or slices of roast meat or chicken warmed over in its own gravy are quickly served on sewing days. For desserts there are any kind of pie which is good cold, or canned fruit and cake, or short-cake made of stale sponge cake smothered with a fruit sauce and served with cream.

At Mrs. Neighbor's the sewing girl simply takes off her hat, puts on her apron, and sets to work. Preparedness, Hail!



Electricity on the Farm Brings Home Conveniences.

so that the skin may be easily removed, without spoiling the looks of the pulp.

The vacuum-seal method is of little importance, to the housekeeper who cans for home use only. It requires specially made jars, out of which all air may be taken after the fruit is cooked and packed into them.

For all-round canning, both of fruits and vegetables, the cold pack single period method is best. It better preserves the natural color, flavor and shape of fruits and vegetables, than the old way of cooking first and then packing into cans, and as the fruit, can, top and rubber are all boiled together we may be sure no bacteria gets into the cans after the fruit is cooked. In using the old style cans the tops are screwed down until they just touch the rubbers, then tightened after the cans are removed from the "hot bath," as the boiling water is termed. In using spring top cans the lower half of the

across the road. Yet the sewing girl likes to sew at Mrs. Neighbor's. She never hints at being over-worked, and she receives no more wages. Do you want to know the secret?

The time is coming, in some localities it is on the way, when our girls from the domestic science classes of our up-to-date schools will do their own spring sewing. They will do it well and happily with never a sigh for help from the dressmaker who goes out by the day. But many of us, of an older and less well-rounded education, find it necessary to hire the sewing girl once or twice each year. For such housewives, as well as for the woman who must sandwich the sewing in between her housework, Mrs. Neighbor's secret may prove useful.

The secret is just "preparedness." Mrs. Neighbor gets ready for her sewing week just as she gets ready for fruit canning time or washday. This means that she gathers together some

WILD GREENS AND SALADS.

The most common way of using dandelions is as a potherb, or greens. As with most green vegetables, it is a mistake to cook them more than is needed to make them tender. If they are boiled with one-eighth of a teaspoonful (level), of cooking soda to each quart of greens used, they will keep their color better. Young dandelions may also be used uncooked as salad, a custom less common in this country than in Europe, where the tender plants are sometimes blanched like asparagus. If more dandelions are available than can be used while they are fresh, they may be preserved for future use. They may be canned by the method used by the canning clubs for spinach, or they may be "put down" in salt according to a household method. In many homes it is a common practice to preserve dandelion greens with salt in stone crocks, putting in first a layer of greens, then a layer of salt, then more greens, and so on, until the crock is filled. The dandelions are then covered with a close-fitting plate or board, on which a weight (a clean piece of marble or a stone), is placed to keep the greens packed solid.

Other wild plants used as potherbs are curly dock, pigweed or lamb's quarters, chickweed, mustard shoots, purple milkweed shoots, young horse-radish leaves, marsh marigold (sometimes called American cowslip), poke sprouts, pepper cress, purslane or "pusley," and in the southwestern states some sorts of cactus leaves and stalks. If the bitter or acrid flavor is too strong, as is frequently the case with horse-radish leaves or poke sprouts, for example, it may be lessened by changing the water once or twice during cooking. Rightly cooked, all of the plants mentioned are harmless. Marsh marigold is sometimes said to be harmful, but this is not the case with the cooked greens.

A little later in the season a few other potherbs appear which, though cultivated rather than wild, are so seldom utilized that to use them means as much saving as if no care had been spent to raise them. Among these are the tops of turnips, radishes, beets and onions, all of which may be cooked like spinach or dandelion. The onion tops should be cut up into inch lengths before cooking.

There are also a few salad plants to be had for the picking. Like all food materials eaten without cooking, they must be very carefully washed before using. Water cress is perhaps the one most generally known. It is also cultivated. It should never be eaten if it has been grown where there is any chance of contamination from typhoid fever or other diseases. This is true of any vegetable that is uncooked, but must be remembered especially in connection with plants growing near water, since the latter may have carried the disease germs a long way from the place where the illness was. Peppergrass or peppergrass is another wild plant useful for flavoring other salads, if too sharp to use alone. Sorrel may also be used to give a pleasant acid taste to lettuce or other mild-flavored salads, though the ordinary wild kind is too sour to use in quantity as a potherb like the varieties cultivated for that purpose.

Of plants cultivated in the flower garden the leaves and unripe seeds of nasturtium may be mentioned as a seasoning for salads.

POISONING FROM RHUBARB TOPS.

I wish to give a word of warning against the suggestion seen in farm journals, that rhubarb tops be used for greens. I am caring for a family of seven who ate greens made exclusively of rhubarb tops. All, except one who did not eat, were very sick and it has been a question whether or not

the two younger ones would survive, and only today the youngest boy of five is able to stand alone. He ate the greens on April 22, twenty-three days ago. The tops contain Petroxalate which, it seems, is converted into oxalic acid, and the family is suffering from a severe type of oxalic acid poisoning. It may be safe to add a little of the tops to a dish of greens, but surely the making of greens exclusively from the rhubarb tops is very dangerous. W. A. SMITH, M. D.

PRECAUTIONS AGAINST INFANTILE PARALYSIS.

BY ELLA E. ROCKWOOD.

As the season approaches when the dread scourge, infantile paralysis, may again be expected to get in its deadly work, parents should be particularly careful to keep their children as far as possible from any chance of infection. The insidious nature of the disease and the fact that so little is actually known about it, even among the medical fraternity, makes it all the more difficult to combat.

Enough is understood, however, to make plain that it is encouraged by the presence of unsanitary conditions generally, although many cases above reproach in this respect have been recorded. Flies are carriers of germs of all kinds so the necessity of guarding against that pest is evident.

That the germs find their entrance into the system through the facial openings and that the mouth and nostrils are probably the place where these gain lodgment seems to be quite generally accepted by scientists to be true. A reputable physician who has devoted much time to the study of this disease stated a few months ago that a wise precaution toward prevention of the scourge consisted in spraying the throat twice daily with boric acid solution. So simple is this that no one need be prevented from trying it and the cleansing properties of the remedy suggested are well known.

Boracic, or boric, acid is so inexpensive as to be within the reach of all, and a solution prepared by pouring over it boiling water in proportion of one teaspoonful of the powder to one quart is all that is necessary. As this is absolutely tasteless no child will object to its use, and while it is not claimed for it that it is a certain preventive it certainly will do no harm. This is the solution which careful twentieth century mothers are using each morning on a pledget of antiseptic cotton to swab out baby's mouth and to wash the little eyes, using three separate pledgets for the operation, one for the mouth and one for each of the eyes. As a remedy for weak or tired eyes of adults or children of any age this solution is excellent, used freely with an eye cup or with a dropper.

It is conceded that there is more danger of contracting the disease in crowds and common sense would suggest keeping children quietly at home during the period when infection is most to be feared. The folly of the mother who drags a little child through a crowd, or who walks its legs off up and down the street when it ought to be in bed is unexplainable. Young children are much better off at home and it can usually be arranged so there is someone to stay with them when the mother goes away. Especially at a time when infantile paralysis is raging, this should certainly be done.

To brighten a shabby carpet, sweep the carpet carefully to remove all the dust, then go over it with a clean house flannel dipped in a pail of warm water, to which a cupful of strong vinegar has been added. The flannel should be wrung as dry as possible before it is applied to the carpet, which must not be more than dampened in the process. Let the carpet dry thoroughly before walking on it.—M. A. P.

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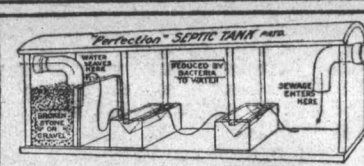
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Markets.

GRAINS AND SEEDS.

May 22, 1917.

Wheat.—Through the adoption of emergency methods by boards of trade over the country they have been able to keep prices for the staple grains within reasonable limitations. As a result wheat values are off fully 40c from a week ago. There has been some improvement in the growing crop, recent rains supplying the much needed moisture over both the winter and spring wheat areas. Many fields, however, have gotten beyond the point where they can be saved and have, in most instances, been plowed up and prepared for other crops. Millers are taking cash grain where they can find it and foreign countries are good buyers. The visible supply for the country shows a decrease of nearly three million bushels. One year ago the price for No. 2 red wheat was \$1.14½ per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	
	Red.	White.	July
Wednesday	3.00	2.97	2.32
Thursday	2.80	2.77	2.26
Friday	2.85	2.82	2.31
Saturday	3.00	2.97	2.43
Monday	3.00	2.97	2.38
Tuesday	3.02	2.99	2.36

Corn.—There is a scarcity of the cash grain and this is going to keep prices up until the new crop is ready for the trade. A liberal acreage is being put out through the central states and in the north farmers are planning on planting heavier than usual, although the backwardness of the season may force many Michigan farmers to switch from corn to beans if work is held up much longer by unfavorable weather. One year ago No. 3 corn was quoted at 73c per bushel. Last week's Detroit quotations were:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	1.67	1.69	
Thursday	1.66	1.68	
Friday	1.68	1.70	
Saturday	1.73	1.75	
Monday	1.73	1.75	
Tuesday	1.73	1.75	

Oats.—Although a large acreage of oats has been sown, and in many districts the small plants are doing nicely, dealing in this cereal has taken on increased activity, due largely to the prohibition placed upon trading in wheat. Prices are holding about steady with a good demand obtaining. A year ago standard oats were quoted at 45c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3	
	White.	White.	
Wednesday	74½	74	
Thursday	73½	73	
Friday	73½	73	
Saturday	75½	75	
Monday	75½	75	
Tuesday	75	74½	

Rye.—This cereal has advanced 5c, with cash No. 2 quoted at \$2.25 per bu.

Beans.—The local market is merely a nominal one, there being practically no cash offerings at hand. The board quotes cash and June shipment at \$9.40 per bushel. At many up-state points, beans are being purchased on a \$9.50 basis.

Seeds.—Prime red clover \$10.90; October \$11.85; alsike \$11.50; timothy \$3.85 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$16.60; seconds \$16.30; straight \$16; spring patent \$16.90; rye flour \$13.35 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$41; standard middlings \$41; fine middlings \$45; cracked corn \$68.50; coarse corn meal \$67.50; corn and oat chop \$58 per ton.

Hay.—In carlots at Detroit: No. 1 timothy \$17.50@18; standard timothy \$16.50@17; No. 2 timothy \$15.50@16; light mixed \$16.50@17; No. 1 mixed \$14@14.50; No. 1 clover \$13.50@14.

Pittsburg.—No. 1 timothy \$19@19.25; No. 2 timothy \$17@17.75; No. 1 light mixed \$17@17.75; No. 1 clover mixed \$16.50@17; No. 1 clover \$16.50@17.

Straw.—In carlots, on track Detroit, rye straw \$10.50@11; wheat and oat straw \$9.50@10.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market continues firm with demand good. Creamery extras

offered at 38c; bid at 36½c; creamery firsts offered at 38c, bid at 36½c; packing stock 26c.

Elgin.—Market is firm at an advance of 1c over last week. Price, based on sales, is 38c.

Chicago.—Market continues steady and without change. Demand is mostly for consumptive purposes. Extra creameries 38c; extra firsts 37½c; packing stock 29c.

Eggs.—The demand is active and the market is firm. Fresh firsts offered at 36c, bid 35½c.

Chicago.—Prices are higher with the market firm. The demand is fair. Fresh firsts 34¼@35¼c; ordinary firsts 32@32½c; miscellaneous lots, cases included 32@35c.

Poultry.—The supply is abundant and prices are lower. The recent high prices of grain have undoubtedly caused selling of farm stocks. No. 1 hens 23@24c; No. 2 do 22@23c; small do 22c; ducks 22@23c; geese 15@16c per lb; turkeys 24@25c.

Chicago.—Market remains steady and without change. Receipts light and demand moderate. Fowls 22½@23c; roosters 16½c; broilers 1½@2 lbs. \$6@7.50 per doz; ducks 12@16c; geese 12@14c; turkeys 12@22c.

Dressed Calves.—Market at Detroit is steady. Fancy 18½@19c; No. 2, 16@17c per lb.

Chicago.—The trade is light, receipts being small; 50@60 lbs. weight 14@14½c; 60@80-lb. weight 14½@15½c; 90@100 lbs. 16@17c.

FRUITS AND VEGETABLES.

Apples.—The market is active and prices remain unchanged. Baldwin \$6; Steele's Red \$8.50 per bbl. At Chicago demand is good for well graded stock, otherwise the demand is only fair. No. 1 stock sells at \$3.50@6.50 per bbl; No. 2 at \$2.25@2.75; orchard run \$3.25@3.50.

Potatoes.—Market is firm for old potatoes because supply of old and new is light. Quotations are: In carlots at Detroit in sacks, Michigan \$2.90@3 per bushel. At Chicago no Michigan stock was reported. Market is slightly higher but dull. Prices range from \$2.50@2.90 per bushel. At Greenville potatoes are selling at \$2.25@2.40 per bushel. Only a few left.

WOOL.

Every indication points to a very firm wool trade at the unprecedentedly high prices which are now ruling. Many Michigan farmers are contracting around 40@45c, thinking that to be a high price, while others are making arrangements with buyers at 50@55c, with one report up to 58c for three-eighths grade. It seems to be the conviction of unprejudiced students that the top of the market has not been reached and that values will keep on going up. Dealers are very anxious, of course, to get as large quantities in hand as possible before the quotations go higher, and are using every argument available to bear the trade. There is a world shortage of wool that will require years to resupply and for this reason but little risk is taken by waiting for a later market. At Boston the trade continues very, very strong with Michigan unwashed delaines quoted at 55c; do combing 48@61c; do clothing 49@51c.

GRAND RAPIDS.

The local egg market is firm at 33c. Dairy butter is quoted at 30@31c. Asparagus, spinach and pieplant are in good supply on the city market now. Old potatoes sell around \$2.85. Buying prices of grain for this week's opening at the mills are as follows: No. 2 red wheat \$2.89; oats 80c; corn \$1.60; rye \$1.60; barley \$1.50; beans \$9.

DETROIT EASTERN MARKET.

The market was of seasonable size Tuesday morning with rhubarb and asparagus making up the bulk of the offerings. The former was selling at 15c per bunch for field grown and 40@45c for indoor; asparagus 90c@1 per doz; eggs 42@45c; lettuce \$1.30@1.40. No butter or loose hay were in sight.

LIVE STOCK MARKETS.

May 21, 1917.

Buffalo.

Receipts here today as follows: Cattle 140 cars; hogs 50 d. d.; sheep 35 d. d.; calves 2200 head.

With 140 cars of cattle here today the demand was strong for all grades of fat cattle, the bulk of the weighty shipping cattle selling 25c higher, and the medium and butcher grades 15@25c higher. All fat cows, heifers, and bulls sold at strong prices, but the canner trade was slow and the bulk of them sold 25c lower than last week. The feeder trade also was very draggy and what few were here looked 50@

75c lower than the high time ten days ago. We look for a fair run of cattle next Monday and a good trade on all fat grades.

We had a rather light run of hogs today, about 50 double decks, demand quite good and prices 5@10c higher than Saturday, advance mostly on the light weights. A few selected loads sold up to \$17, with the bulk around \$16.75, a few at \$16.85 and \$16.90. Pigs and lights \$14.50@15.50, as to weight and quality; roughs \$14.50@15; stags \$12@13. Everything sold at close and outlook good for the balance of the week.

With a moderate run of lambs today our market opened up active and prices 15c higher than the close of last week. All sold and we look for higher prices balance of the week, depending chiefly on receipts.

We quote: Lambs \$16.50@16.75; heavy lambs \$15@15.50; cull to common \$10@15; yearlings \$13@14.50; wethers \$13.25@13.50; ewes \$12.50@13; bucks \$8@11; best calves \$15.50@15.75; common and light \$10@14; heavy \$8.50@11; grassers \$6@6.50.

Chicago.

May 21, 1917.

Cattle. Hogs. Sheep. Receipts today... 21,000 40,000 12,000 Same day 1916... 15,804 38,879 17,538 Last week... 52,309 110,745 41,846 Same wk 1916... 41,193 146,092 54,582

Hogs sold at the opening of the week today at unchanged prices, top being \$16.50. For two weeks in succession the hogs received have averaged 215 lbs. Cattle that are fat and butcher stock are unchanged, but other lots of steers are called at least a dime lower, with the rain making buyers late in starting in. Lambs and sheep are firm.

Cattle were not marketed in excessive numbers last week, and an active general demand placed prices on still higher levels for pretty much everything offered. Steers sold anywhere from \$9@10 for very limited offerings of little steers of inferior quality to \$13.10@13.70 for choice to fancy lots of heavy corn-fed beefs, with the greater part of the steers going at \$11@13.15. Sales were made of fair killing steers of light weight at \$10.50@11.45, while a medium class of steers found buyers at \$11.50@12.50, and good fat steers went at \$12.60@13. Butchering lots of cattle had a full share in the upward movement, with cows selling at \$8.15@11.50 and heifers mostly at \$8@12, yearling heifers of superior quality bringing \$10.85 and upward. Yearling steers were active sellers, with a marked scarcity of the better kind, desirable lots fetching \$11.75@13.60 and sales made all the way down to \$10 for the commoner lots. Cutters made a great record by selling at \$7.60@8.10, while canning cows found ready outlet at \$6.75@7.50, and sales were made of bulls at an extreme range of \$7.50@11. Calves went soaring in prices under the influence of a lively demand, buyers paying \$13.75@14.75 for light vealers and down to \$7.50@11 for the heavier offerings. Stockers and feeders were not offered very freely, and it was impossible to transact any large volume of business, although early in the week some fancy prices were paid, stockers selling at \$8@10.10, with prime yearlings going at \$9.50 and over and feeders at \$9.25@10.60. Later in the week buyers held back and refused to pay early prices, the market suffering a marked decline in quotations. Milkers and springers had a fair outlet, prices ruling at \$70@125 per head, with good cows chiefly wanted. The country is averse to paying more than \$10 for feeders, and sales at such figures are comparatively few. Beef cattle averaged about 25c higher than a week earlier.

Hogs started off last week with an advance of about 25c per 100 lbs., the Monday receipts being smaller than usual, numbering 37,739 head, while the local packers were active buyers. Receipts on subsequent days were not large, and the demand continued good, but prices ruled considerably lower. The receipts have been running too largely on the lighter weights of hogs, and decidedly more choice heavy barrows than were offered could have been used advantageously. Light hogs had to be sold at greater or smaller discounts from prices paid for heavy lots, and pigs were low sellers, with choice lots averaging up to 135 lbs. the highest sellers. The week's receipts were much smaller than a week earlier and far less than a year ago, and after moderate declines, the market closed on Saturday a dime higher for the best than a week earlier. Light bacon hogs closed at \$15.10@16.10; heavy packers at \$15.80@16.30; light shippers at \$16.15@16.25 and pigs at \$11@14.35, lots averaging up to 135 lbs. going highest. Most of the pigs sold at \$12@13.50. Heavy shipping hogs brought \$16.30@16.50. Last week was one of the most re-

markable ones ever experienced in the lamb and sheep market, the advances in prices being sensational in the extreme, with lambs taking the lead, as usual. When prime Colorado woolled lambs reached \$20.40 per 100 lbs., by far the highest price ever paid in the history of the trade, there was great excitement, advances being paid of from 25@50c in a single day for prime offerings. Everything in the live mutton line participated in the boom, and sellers gathered wholly unexpected profits from their flocks. Lambs comprised the great bulk of the offerings, and there was an increased proportion of Colorado clipped lambs during the latter days of the week. The week's receipts of lambs and sheep were unusually small in volume, and prime woolled lambs advanced \$1.40 per 100 lbs., with similar upward movements in other offerings. Woolled lots closed as follows on Saturday: Lambs \$18@20.40; shearings lambs \$12.75@16.75; spring lambs \$16@21; yearlings \$12.50@17.50; wethers \$14@16.25; ewes \$13.50@16; bucks \$13@15; clipped lambs closed at \$12.75@16.75.

Horses were in moderate supply and in good general demand last week at firmer prices, with farm chunks salable at \$60@140 for common to fair ones, good to choice drafters at \$240@300 or more, and expressers at \$175@210. Very few army horses offered.

LIVE STOCK NEWS.

The long continued sharp upward movement of prices for corn has been a serious hindrance in the path of the production of beef and pork and lard, and the thousands of stockmen in the country have hastened to get their holdings shipped to market, regardless of their condition. At the same time there are quite a number of farmers who have reasoned differently and have made it a point of holding their cattle until they were well matured. These experienced stockmen have been selling their fat cattle at liberal premiums over the prices paid for the short-fed lots and have reaped substantial profits by doing so. But there are numerous farmers who have used up all of their corn and have experienced lots of difficulty in obtaining fresh supplies, and these men are absolutely compelled to let their cattle go to market without delay. Many instances could be related of farmers without feed applying to neighboring farmers for supplies of corn to help them out and the requests being refused. Usually in such instances farmers owning the corn needed it for their own stock or wanted it for tiding over a possible crop failure.

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With an organization which is producing enough business to pay for a stolen car each day, and a surplus of \$65,000 on hand and 21,700 policies issued, the Company is prepared to meet all claims.

Auto owners realize that great care should be used in driving and that the ordinances of most large cities make it illegal to leave automobiles on the street without a proper lock; yet accidents continually occur and cars are stolen.

The farmer and the business man who joins a mutual should select one that has a large membership and a surplus on hand to meet claims.

Should you have a large damage claim against you, the only mutual company in the state able to give you prompt and efficient service with money on hand to pay the judgment, is the Citizens' Mutual Automobile Insurance Company, of Howell, and the cost is only \$1.00 for policy and 25c per H. P.

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(Bags Extra 25c. MARTIN DAWSON CO., Ypsilanti, Michigan)

SOY BEANS: Ogema's \$1 per bu. B. J. DOWNING, St. Charles, Michigan.

THIS IS THE LAST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKET.

Thursday's Market. May 24, 1917.

Cattle.

Receipts 1274. Market steady at last week's closing prices on all grades. Best heavy steers \$11.50@12.10; best handy weight butcher steers \$10.50@11.25; mixed steers and heifers \$9.50@10.50; handy light butchers \$8.75@9.75; light butchers \$8@9.50; best cows \$9.50@10; butcher cows \$7.75@8.75; common cows \$7@7.50; canners \$6.50@7; best heavy bulls \$9.50@10; bologna bulls \$8.50@9.25; stock bulls \$7.50@8; feeders \$8.50@9.50; stockers \$7.50@8.50; milkers and springers \$5@100.

Bishop, B. & H. sold Bresnahan 2 canners av 820 at \$6.75, 1 cow wgh 1100 at \$7.50; to Hammond, S. & Co. 12 butchers av 650 at \$8.25, 6 bulls av 828 at \$8.25, 18 steers av 1011 at \$10.75, 2 do av 860 at \$9, 1 cow wgh 1200 at \$7.50, 1 do wgh 1120 at \$7; to Thompson 3 bulls av 1163 at \$9.85, 2 do av 1615 at \$9.85, 20 steers av 994 at \$10.35, 19 do av 955 at \$10.25, 2 cows av 950 at \$8.50; to Newton B. Co. 22 steers av 881 at \$12; to Bray 2 canners av 960 at \$7.50, 1 do wgh 690 at \$6.75; to Sullivan P. Co. 7 cows av 990 at \$8.35, 2 steers av 865 at \$9; to Parker, W. & Co. 9 cows av 1018 at \$8.75, 2 steers av 1075 at \$10.25, 8 cows av 1000 at \$8.25; to Hammond, S. & Co. 12 steers av 838 at \$10, 1 bull wgh 1250 at \$9, 3 cows av 1133 at \$8, 4 do av 850 at \$7, 4 do av 1150 at \$9.25, 2 do av 1010 at \$7.50, 1 do wgh 1070 at \$8.25, 2 bulls av 1240 at \$9.25; to Bresnahan 10 cows av 800 at \$7; to Thompson 20 steers av 1116 at \$10.85; to Prentiss 23 do av 1122 at \$10.65; to Mich. B. Co. 15 cows av 1138 at \$8.50, 17 butchers av 579 at \$8.35; to Sullivan P. Co. 2 steers av 865 at \$9, 2 do av 1250 at \$11, 1 bull wgh 1220 at \$9.50.

Erwin, S. & J. sold Applebaum 1 cow wgh 1020 at \$8, 1 steer wgh 750 at \$9; to Mason B. Co. 1 bull wgh 1660 at \$9.50, 1 do wgh 1530 at \$10; to Nagle P Co. 2 canners av 770 at \$6.65, 8 do av 920 at \$7.25; to Newton P. Co. 25 steers av 1040 at \$10.35, 1 do wgh 700 at \$8.25, 1 cow wgh 1070 at \$7.50, 3 steers av 1463 at \$12.10, 10 do av 825 at \$10, 9 do av 711 at \$8.75, 2 do av 550 at \$8; to Kamman B. Co. 3 do av 993 at \$10; to Prentiss 3 do av 1077 at \$11.50, 2 cows av 1195 at \$8.75, 7 steers av 1044 at \$10.50, 4 do av 1259 at \$11.25, 16 do av 955 at \$10.30; to Mich. B. Co. 1 do wgh 1070 at \$11, 7 do av 714 at \$9, 6 cows av 1075 at \$7.50, 3 do av 970 at \$8; to Newton B. Co. 1 do wgh 860 at \$8, 1 do wgh 1060 at \$7.40, 1 bull wgh 1060 at \$8.50, 15 steers av 850 at \$10.15, 18 do av 715 at \$11, 9 do av 725 at \$9, 8 do av 861 at \$10.35; to Kamman B. Co. 19 do av 958 at \$10.50; to Mich. B. Co. 3 do av 733 at \$9.50, 6 cows av 763 at \$8.35; to Bray 7 stockers av 464 at \$8, 2 cows av 760 at \$7.25, 4 stockers av 555 at \$7.35; to Hammond, S. & Co. 1 cow wgh 1100 at \$7.40, 2 bulls av 980 at \$8.65; to Bray 3 cows av 847 at \$7; to Fineman 5 butchers av 888 at \$7.50.

Veal Calves.

Receipts 410. Market strong. Best \$14@14.50; culls \$10@11; heavy \$8@9.

Sandel, S., B. & G. sold Thompson 9 av 160 at \$14, 2 av 125 at \$12.50, 2 av 105 at \$11; to Nagle P. Co. 4 av 135 at \$13.50, 8 av 145 at \$14.25, 7 av 190 at \$14, 2 av 140 at \$13.25, 14 av 140 at \$13.50 to Sullivan P. Co. 4 av 155 at \$14.75, 17 av 135 at \$14, 2 av 155 at \$14 to Shipps 3 av 160 at \$14.50.

Sheep and Lambs.

Receipts 847. Market for good lambs 25c higher; others strong. Best lambs \$16@16.25; fair lambs \$14.25@15; light to common lambs \$12.50@13.50; fair to good sheep \$11.50@12.50; culls and common \$8@9.

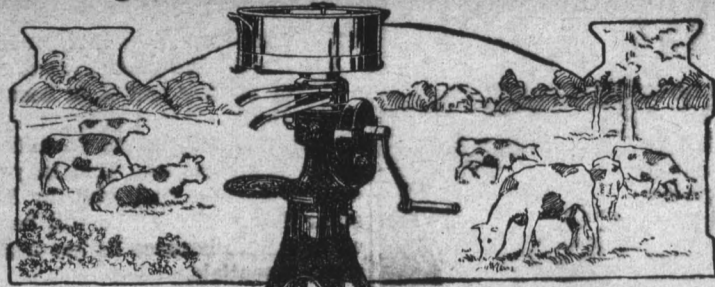
McMullen, K. & J. sold Thompson 62 lambs av 60 at \$13 to Hammond, S. & Co. 11 do av 75 at \$15, 21 sheep av 100 at \$12, 101 lambs av 60 at \$15; to Mich. B. Co. 311 do av 75 at \$15.60.

Erwin, S. & J. sold Sullivan P. Co. 3 sheep av 130 at \$9, 4 lambs av 80 at \$14, 9 do av 65 at \$14, 11 do av 57 at \$11.50, 11 sheep av 80 at \$8.50; to Hammond, S. & Co. 7 lambs av 85 at \$15.

Bishop, B. & H. sold Parker, W. & Co. 101 lambs av 63 at \$15, 6 sheep av 95 at \$10.50, 7 do av 120 at \$12; to Hammond, S. & Co. 5 do av 125 at \$12.50, 33 lambs av 67 at \$14.50, 38 do av 78 at \$15.50.

Hogs.

Receipts 3061. Market 10@15c below Wednesday. Pigs \$13.50@13.65; yorkers and heavy \$15.50@16.10.



Make Your Dairy Pay

EVEN though you have no more than three cows, there are many good reasons why you should have a Lily or Primrose cream separator. It is the only way to get all the cream. It gives you warm, wholesome skimmed milk to feed. It saves a lot of tiresome work. When you get your Lily or Primrose separator busy, you will wish you had done it when you first got your cows.

Lily and Primrose separators skim down to the last drop of cream in each gallon of milk. You can't beat them for close skimming. They turn easily. The bearings oil themselves as you run the machine. They don't get out of adjustment—that is important. By turning a screw on the outside of the separator once in six months or so, you keep the bowl at the correct height, and this is positively the only adjustment necessary.

Next time you go to town, drop in and see the obliging dealer who handles Lily or Primrose cream separators. In the meantime, drop us a line, and we will send you some interesting reading matter about separators.

International Harvester Company of America



Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her FREE Homestead lands of 160 acres each or secure some of the low priced lands in Manitoba, Saskatchewan and Alberta. This year wheat is higher but Canadian land just as cheap, so the opportunity is more attractive than ever. Canada wants you to help feed the world by tilling some of her fertile soil

—land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think of the money you can make with wheat at over \$2 per bushel and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed farming in Western Canada is as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or to

M. V. McINNES, Detroit, Mich. 178 Jefferson Ave. Canadian Government Agent.

Lift Corns Out with Fingers

A few drops of Freezone applied directly upon a tender, aching corn stops the soreness at once and soon the entire corn or callus loosens and can be lifted off with the fingers without even a twinge of pain.

Freezone

Removes hard corns, soft corns, also corns between the toes and hardened calluses. Does not irritate or inflame the surrounding skin or tissue. You feel no pain when applying it or afterward.

Women! Keep a small bottle of Freezone on your dresser and never let a corn ache twice.

Small bottles can be had at any drug store in the U. S. or Canada

THE EDWARD WESLEY CO., Cincinnati, O.

Foxes Wanted—100 young Heds. Will pay \$2 each and express charges. RASS BROWN, McFall, Ala.

MINERAL HEAVE COMPOUND CURES HEAVES. Includes image of a horse and text: '53 Package guaranteed to give satisfaction or money refunded. \$1 Package sufficient for ordinary cases.' Agents: WANNING, 465 South Ave., Chicago, Ill.

WOOL

Write us about consigning your wool to us. W. L. IRELAND & CO., Grand Lodge, Mich.

HAY

Ship To The Old Reliable House Daniel McCaffrey's Sons, 623-625 Wabash Bld., Pittsburgh Pa. Consign your Hay to us. If you prefer to sell, describe quality, quote prices your track. The E. L. Richmond Co., Detroit. Reference, your bank.

EGG'S

We want new laid stock and can pay top prices for them. A AMERICAN BUTTER & CHEESE CO. Detroit, Mich. We want fresh White Leghorn eggs. We pay a premium over the highest market quotation and remit immediately upon arrival. Fox River Butter Co., Detroit, Mich.

Farms and Farm Lands For Sale

460 Acres near Chelsea

At the price of a 200a. farm, good loam soil, not light, 250 under cultivation, 60 acres timber, balance pasture. Eight-room house, basement, barns, sheds, outbuildings, slightly rolling, small lake. This is a rare bargain and has the reputation of being the banner farm of the community. \$80 per acre will buy it, and special bean crop this year will pay for it. See Wirt J. Smith, 415 Hammond Bldg., Detroit, Mich. Main 1881.

120 Acres, potato and bean land, nearly level,

all unimproved, forty acres easily cleared, some good wood, partly fenced, small log house, short distance to school, five miles to good town on two railroads, short distance to side-track where produce is loaded. Price \$30.00 per acre, \$200 down and any reasonable time on the remainder. Write W. F. UMPHREY, - - - - - Ewart, Mich.

A Small Farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Low prices. Easy terms. Sure profits. Hospitable neighbors. Good roads, schools and churches. Write for our San Joaquin Valley Illustrated folder, Free, O. L. Seagraves, Ind. Comm. AT & SF Ry., 1967 Ry. Ex. Chicago

For Sale Good 60 acre farm on county highway, one mile from high school, and from market on both street and interurban road. 10 miles from Owosso, Michigan. Good barn, tool house and nine room house. Good well and windmill. Beautiful maple shade. A. A. Bristol, Fremont, Mich.

FOR SALE the best farming land in Houghton County at \$15 to \$20 per acre, these lands will grow Alfalfa, Wheat, Rye, Potatoes and all fruits and grains. Worcester Lumber Co. Ltd., Box 192, Chamwell, Mich.

WANTED I want a farm; Describe fully. P. J. C. 5141 Chappel Ave., Chicago, Ill.

Michigan Farmer's Club List.

For the benefit and convenience of our subscribers we have arranged the following list of papers. Besides the money saved they save the trouble and expense of sending each order separately.

EXPLANATION.—The first column gives the paper's regular subscription price. The second column price is for the Michigan Farmer and the other paper, both for one year. Add \$1.00 when the Michigan Farmer is wanted three years, or \$1.50 if the Michigan Farmer is wanted five years. All combination orders may be handed to our agents or sent to us, as is most convenient.

Write for prices on publications not listed. Subscribers to the Michigan Farmer whose time is not up for one year or more, may have as many other papers as wanted by deducting 75 cents from the second column price. This takes care of those who subscribed for three or five years a year or two ago. We send sample copies of the Michigan Farmer only. Mention if you are a new or renewal subscriber. Renewals will be dated ahead from their present date.

Table with columns: NAME OF PUBLICATION, See explanation above. Lists various newspapers and their prices.

Table with columns: NAME OF PUBLICATION, See explanation above. Lists various magazines and their prices.

POULTRY.

Anonas Good stock; fine layers. 30 eggs, \$2; 50, \$5; 100, \$5. Order now. T. Z. RICHEY, CANNELTON, INDIANA.

Baby Chicks

From Standard Bred S. C. White and Brown Leghorns, \$10.00 per 100; \$90.00 per 1,000. Bred to lay large white eggs. Safe arrival guaranteed. Catalogue free. **WOLVERINE HATCHERY, Box 2221, Zeeland, Mich.**

Baby Chicks and Hatching Eggs

From Bred-to-Lay Barred Rocks, S. C. White Leghorns and S. C. Buff Orpingtons. All high class stock at very reasonable prices. Send for our Chick Folder at once. **RUSSELL POULTRY RANCH, Petersburg, Mich.**

Baby Chicks, S. O. White Leghorns, 5,000 for May, at \$12.00 per 100. Safe delivery guaranteed. All breeders are farm raised and bred for high egg production. Order direct from this advertisement. **SUNNYBROOK FARM, Hillsdale, Mich.**

Baby Chicks Cheaper than hatching eggs. We specialize in Leghorns, Rocks and Reds. Send for catalogue. Twentieth Century Hatchery Company, Box 162, New Washington, Ohio.

CHICKS

JOHN'S big beautiful hen-hatched Barred Rocks, J. good layers. Breeding pens (5 birds) \$10 to \$20. Eggs \$3, \$2.50; 100, \$7. Circulars Photo. John Northon, Clare, Mich.

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. **Fred Astling, Constantine, Mich.**

Barred Plymouth Rock Eggs from full blood stock \$1.50 per 15. Prize winning strain. **J. A. Barnum, Union City, Mich.**

**Ferris White Leghorns**
A real heavy laying strain, trapezoid 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free.
GEORGE B. FERRIS 984 Union, Grand Rapids, Mich.

CHICKS, are booking orders now for spring delivery, different varieties, free booklet. **Freeport Hatchery, Box 12, Freeport, Michigan**

Baby Chicks pure bred Youngs S. C. W. Leghorns and P. B. Rocks, 8 cents and up. Catalogue free. **M. Knolls Hatchery, Holland, Mich., R. 3**

Baby Chicks S. C. White Leghorn Ferris 200 to 230 egg strain, \$12.00 per 100. **HERBERT HAMMOND, Williamston, Mich.**

"200-Egg" Pedigree White Leghorns

Baby Chicks, Eggs for Hatching
"Bred-to-lay" strain, vigorous, healthy stock, all sired by Missouri Experiment Station males with pedigrees of 200 to 274 eggs in one year. Chicks, \$25 for 100, \$100 for 500. Eggs for hatching, \$10 for 100. Thousands of satisfied customers. Book your order at once for eggs for hatching and baby chicks of quality. We sell Magic Brooders, best brooders made, \$16.50 each, capacity 300 to 500 chicks. Catalogue. **Michigan Poultry Farm, Lansing, Mich. "Michigan's Largest Poultry Farm."**

LAYBILT S. C. W. LEGHORNS
Large, Great Layers, Pure White

Proved egg type from like ancestry. Not the "Best in the World," but None Better for beauty and laying ability. Laybilt Leghorns mean either better quality at the same price or the same quality at a less price. Selected hatching eggs, \$1.50 per 15, Parcel Post paid: \$5 per 100; 90% fertility guaranteed. Strong Day-Old Chicks, now \$10 per 100. Hatch every week. Guaranteed delivery alive and lively. **Everfresh Egg Farm, Ionia, Mich.**

S. C. White Leghorns

We have about 40 S. C. White Leghorn cock birds for sale. These males are from 200 egg strain and are offering them for \$3 each. Also about 200 fine April hatched pullets at a great bargain. Eggs for hatching March and April \$5 per 100. We will gladly give references on all our sales.
KRENTEL BROS., Box 624, East Lansing, Mich.

FOR SALE Pure bred White Plymouth Rock Eggs for hatching.
OHAS. KLETZLEN, BATH, MICH.

BUFF LEGHORNS Pullets, Hens, Pens, Eggs. All very reasonable.
Dr. William A. Smith, Petersburg, Mich.

For Sale Bred to lay S. C. W. Leghorn hens at \$2 each, bred from 230 to 265 egg stock; also eggs for hatching. **Leon C. Wheeler, Barryton, Mich.**

Fowler's Buff Rocks. I am now booking orders for eggs at \$1.50 for 15, \$3 for 30, \$4 for 50, \$7 for 100. Pen No. 1, \$4 for 15. Also one 2 yr. old White Holland Tom. **R. B. Fowler, Hartford, Mich.**

EGGS for setting from R. C. Brown Leghorns, leading strains in America also W. China Geese and M. Pekin ducks.
MRS. CLAUDIA BETTS, Hillsdale, Michigan

Eggaday White Wyandottes, Eggs \$1.25 per 15; \$2.25 per 30; 136.50 per 100.
EGGADAY RANCH, Marshall, Mich.

Improve Your Poultry. Leghorns are great money makers. Strong, vigorous, bred-to-lay stock. Baby chicks \$8 to \$11 per 100. Satisfaction guaranteed. Large orders filled. Free catalogue. **W. Van Appledorn, Holland, Mich., R. 7, Box 141.**

MORSE'S White Leghorns. State Cup winners. Bred for eggs for years. Now selling eggs, chicks and stock. Free catalog. **Rufus Morse, Belding, Mich.**

PINE CREST S. C. White Orpingtons, cockerels, pullets, eggs \$5 and \$3 per 15, utility \$5 per 100. Eggs half price after May 15th. **MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.**

RHODE ISLAND REDS and **PLYMOUTH ROCKS** Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6.00. Mammoth Bronze Tom Turkeys, 8 to 88 lbs. according to age \$5 to \$25, 10 eggs \$3.
A. E. Cranston, Yassar, Mich.

R. I. Red Chicks and Eggs. Winter Layers. Bred by more Michigan farmers than any other strain Catalogue free. **Interlakes Farm, Box 39, Lawrence, Mich.**

RINGLETS' Barred Rocks. The famous show and laying strain Eggs \$2.00 for 15. Delivered by Parcel Post from selected matings. Plain View Stock Farm J. W. Saliard, Prop. Res. W. St. Clair St., Romeo, Mich.

Kill Lice

Begin now, in the spring-time-clean up your poultry, keep hens and little chicks free from lice so they will do their best. When hens pick feathers you have a sure sign of lice.



Dr. Hess Instant Louse Killer

means easy and sure lice riddance. Dust into hens' feathers, about roosts and houses. Put it into the dust bath, both hens and chicks will work it all through the feathers, bringing the Louse Killer right home to the lice. You can do your poultry no better service. Don't neglect them.

Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes. Sold in sifting-top cans. Price, 1 lb. 25c; 3 lbs. 60c (except in Canada).
DR. HESS & CLARK, Ashland, Ohio

FERRIS POULTRY SUPPLY CATALOG


Everything we sell is guaranteed. You can return any goods you buy from us and get your money back. We ship C. O. D. if desired, quote very lowest prices and carry the most complete line in the country. Here is a partial list:

- Egg Cases
- Shippers Coops
- Trap Nests
- Fillers and Flats
- Chick Boxes
- Wire Nests
- Egg Scales
- Feed Troughs
- Nest Eggs
- Leg Bands
- Clover Cutters
- Egg Testers
- Incubators
- Root Cutters
- Egg Records
- Brooders
- Bone Cutters
- Chick Markers
- Portable Houses
- Grinding Mills
- Caponizing Sets
- Roosting
- Out Sprouters
- Poultry Books
- Poultry Fence
- Water Fountains
- Lice Powder
- Grid
- Automatic Feeders
- Lice Paint
- Oyster Shell
- Beef Scrap
- Disinfectants
- Charcoal
- Chick Feed
- Poultry Remedies
- Alfalfa
- Scratch Feed
- Spray Pumps
- Egg Preservative
- Exhibition Coops
- Fattening Crates
- Egg Dating Stamps
- Egg Trays
- Fowl Catchers
- Folding Egg Crates
- Egg Cabinets
- Moisture Gages

If you don't find what you want in the above list write us anyway. We have everything a poultryman needs. A post card will bring the 40 page catalog by return mail. We will gladly send it free, whether you buy or not.
GEORGE B. FERRIS 634 SHIRLEY ST. GRAND RAPIDS, MICH.

AVICOL Stops chicks dying

A new scientific discovery that positively cures and prevents White Diarrhoea or Chick Cholera, Black-head, and other bowel diseases of poultry. Leading poultry breeders everywhere use and endorse Avicol. Easily used, in the drinking water. Bond-Guaranteed to do the work of money promptly refunded. Your poultry remedy dealer can supply you. If not, we will send you Avicol by mail prepaid. Price 25c and 50c. Don't accept a substitute. **Burrell-Miller, Indianapolis, Ind. 113 Hoosier Block**



Barred Rock Eggs Four pullets laved \$50
W. C. COFFMAN, R. 3 Benton Harbor, Mich.

Homestead Farms

On account of abundant orders, we cannot promise Day-Old Chicks until into June. We can still supply

Eggs for Hatching
Rocks, Reds, Wyandottes, Black Minorcas and Leghorns; Geese, Ducks and White Holland Turkeys. Cockerels and pullets of our several breeds can be supplied from July on thru the autumn months and we invite inquiry from any who want any of these fowls.
HOMESTEAD FARMS, Bloomingdale, Mich.

R. and S. C. Reds. Eggs and Chicks. Pure bred stock. Also good Scotch Collie Pups. **O. E. Hawley, Ludington, Mich.**

RHODE I. Whites win in the egg laying contest. Best Regg and market fowl. Eggs \$2 per 15, \$5 per 45. Baby chicks. **H. H. Jump, Jackson, Michigan.**

Bred-to-Lay S. C. W. Leghorns and Barred Rocks. Eggs, \$1 for 15, \$1.50 for 25, \$2.50 for 50. **Alpine Poultry Farm, R. 2, Grand Rapids, Mich.**

S. C. W. Leghorn eggs from a 240 egg strain. \$2 per 15. Utility eggs, \$5 per 100. **HILL-CREST POULTRY FARM, Ypsilanti, Michigan.**

Single Comb Black Minorcas Great big cockerels sired by a 10 lb. cock bird. **R. W. Mills, Saline, Mich.**

S. C. White Legorns 200 egg strain. Tom Barron hens. Baby chicks 15c each. Hatching eggs 5c each. **C. W. Gordon, Fowlerville, Michigan.**

S. C. White Leghorns. Size, shape, vigor, egg production. Hatching eggs \$5, Baby Chicks \$11 per 100. 15 years in the hen business. **A. O. Howard, Tecumseh, Mich.**

Plymouth Rock Hatching Eggs. Buff, Barred, Columbian and White. **Sheridan Poultry Yards, Sheridan, Mich.**

SILVER, Golden and White Wyandottes. Eggs from some grand matings. \$1.50 per 15, \$2.50 per 50, large vigorous birds. **C. W. Browning, R. 2 Portland, Mich.**

Additional Poultry Ads. on Page 649

Increasing Farm Poultry Production

THERE are many things which influence the production of a flock of poultry and it is because of these things that poultry raising is complex, and therefore so difficult to make a success of. One may breed and feed right and still by leaving other things undone he will be doomed to failure because he has neglected some essentials.

and well developed pullets for that purpose because they are the largest and will bring the highest prices. However, these early pullets will make the best early winter layers because they are fully developed before cold weather sets in, and are in good shape to lay when eggs are highest. For broiler purposes the culls and later chicks should be used. At least those which give promise of making the best layers should not be sacrificed for the added few cents the sale of them as broilers will bring.

Lice and mites are natural enemies of poultry and are found on all fowls where special attention has not been given to eradicate them. Where the fowls are allowed to dust themselves frequently and where the roosting quarters are kept clean these pests are kept to a minimum. But the means of almost absolute eradication of these pests are so simple that every farmer should practice them. In these days of high-priced feeds and shortage of poultry products no one can afford to feed such pests.

Egg Laying Conformation.

As good dairy production is indicated in the triple triangle shape of the cow, certain body conformations show the tendency toward high production in the hen. One of the chief indications of good laying qualities is the pliability of and a good distance between the pelvic bones. If the bones are pliable and far apart it would indicate that the hen has passed a lot of eggs or has inherited that conformation from parents who have been productive. In the mature hen one should be able to place three fingers between the pelvic bones of a good layer. In a pullet there should be a relative distance between the pelvic bones according to the age and size of the pullet.

Controlling Lice.

Lice powders are very efficient in the control of body lice, and can be used to advantage in the dust box and in other ways as occasion requires. One of the easiest methods of lice control is by the use of blue ointment. This ointment is made by mixing two parts of mercurial ointment to one part of vaseline or petroleum jelly. Lard may be used instead of vaseline. The mercurial ointment can be purchased of any druggist and should be thoroughly mixed with the vaseline on a pane of glass or similar surface, with a case knife. One ounce of the mercurial ointment is enough for treating seventy-five hens.

Another good indication of laying capacity is a good distance between the pelvic bones and the end of the breast bone. This indicates plenty of capacity for the digestive and egg-making organs. Also the birds should have a good stock frame, good color of head and feathers closely laid to the body.

For application an amount of the blue ointment the size of a pea should be thoroughly rubbed into the skin, just below the vent. One must make sure that it is thoroughly rubbed in, otherwise the bird may, in picking at herself, get some of the ointment in her mouth and death would result from mercurial poisoning. The treatment will last several months and is a sure cure for body lice, but will not control the mites which dig into the skin and cause scabies and scaly leg.

In culling the flock it is well to examine the birds according to these qualifications and keep the pullets which must nearly fill them for laying, and the hens for breeding. Cockerels to be kept for breeding purposes should also be examined for these indications of productivity for cockerels having these qualifications undoubtedly inherited them from productive mothers.

Mites Easily Controlled.

For the control of mites there is nothing better than carbolineum, which is a combination of a coal tar product and carbolic acid. It was primarily made for wood preservative purposes but is very efficient in keeping anything to which it is applied free from mites. It should be painted on the roosts, nests and dropping boards, and care must be used in applying it as it splashes easily and has quite an irritating effect if it touches the skin. If possible keep the hens from the roosts for several days until the carbolineum gets thoroughly dried, but if one does not care if the feathers get stained a little he can do the painting early in the morning on a hot, dry day and keep the hens away from the roost during the day until roosting time. This carbolineum penetrates the wood and remains effective in mite control for a year or more. The writer has had one application remain effective for two years.

Of Value to the Farmer.

This egg-laying conformation is no more of an indication of high production than the dairy conformation in cows. Both have their value in the selection of high producers but to determine accurately the Babcock test will have to be used in one case and the trap nest in the other. However, the practice of trap nesting is usually confined to poultry specialists. Therefore, the selection of possible high producers by selecting those which have the egg-laying conformation would undoubtedly bring about greater egg production in the farm flock.

By the use of the blue ointment on the hens and the carbolineum on the roost and nests, one can be assured control of the lice and mites with a minimum of effort and a maximum of efficiency. As these methods are so simple and effective it behooves the farmer to use them and thus get rid of one of the greatest leaks in his flock and one of the greatest hindrances to success in poultry raising.

To keep poultry surroundings sanitary they should be kept free from filth and dampness, as filth and dampness are sure to start disease in poultry which live constantly in such conditions. The coop and feeding utensils should be cleaned frequently and no food should be given which shows the slightest indication of decay. Frequently perishable food which is left from one feeding to another is the cause of considerable trouble. The droppings should be cleaned out frequently and the litter should be changed when it gets soiled and damp. The use of a good disinfectant after the coop has been cleaned is to be recommended.

Another way in which the farmer can greatly increase his poultry production is by the selection of the fowls he keeps for laying purposes. It is a common practice if chickens are sold for broiler purposes to use the early

It is the doing of these simple things, which every farmer can do, that makes for greater production and often the difference between success and failure. In these times of scarcity and high prices it is everyone's duty to stop all leaks and to use all means of getting increased production. These things prove profitable in normal times but with the high prices for poultry products assured for some time to come, any endeavors along this line will be highly rewarded by increased profits.

Grange.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
 Overseer—C. H. Bramble, Tecumseh.
 Lecturer—Dora H. Stockman, Lansing.
 Secretary—Jennie Buell, Ann Arbor.
 Treasurer—Frank Coward, Bronson.

THE IMPORTANCE OF GRANGE MEETINGS.

(Continued from last week.)

The Grange is a school in business. More and more is the man out on the land coming to realize the advantage of a practical business education such as he may get from contact with successful business men on the farm.

The farmer is becoming a better business man each year. Co-operation is becoming a larger and still larger word as the days go by. Co-operative stores and grain elevators, co-operative live stock shipping associations, co-operative fruit selling associations are multiplying all around us. What can the Grange do in this mighty effort toward better conditions for the people who till the ground?

Then, too, Grange is a place where we mould public opinion. Public opinion is mighty. It is stronger than law, for without it law is dead.

In the Grange we may plan for various lines of improvement in the community. Here we may discuss the school problem and perhaps after a while we may provide a system of education which will enable us to give them these advantages without sending them from our homes for days and sometimes weeks, while yet they are all too young for such an experience.

The writer has almost unbounded confidence in the judgment of the average man after he has engaged in thorough discussion of any problem. Apart from such investigation and discussion he is always subject to designs, passions, and prejudices of those whose advice he follows:

In other words, if we are to make the country the best possible place in which to live, we must get together and talk it over from all angles and plan out the work. If we would advance the cause of agriculture so as to assist those people on the land who are in the greatest need, we must meet and get a common vision of the thing to be done, and must make our plans for its accomplishment.

But the Grange is something more than a school, it is more than a business organization; it is a fraternity through which neighborliness should increase, the bonds of friendship grow stronger in the community, and the long list of good things that grow out of a community life full of peace and good will, should be realized. But how shall these things be if we do not meet? And how can they be if we do meet, and still do not realize the greater objects of our coming together?

Lastly, the Granges themselves will grow cold and die if they do not meet. It is true that the Grange that does not meet can still be of some service to the neighborhood. It can buy through trade contracts, it can give its influence in a small way to certain legislative reforms, and its members may insure their houses and barns in some one of the Grange companies, but all these do not really make a Grange after all. Indeed, they come so far from it, that the rule is that after a time members buy in some other way, they insure their property in some other company, they leave legislative matters generally to the men elected to do the legislating, and the Grange itself passes into history.

I want to make an appeal in closing, for better attendance at Grange meetings. We ought to feel the force of public obligation. If we would do our duty to the community we must meet as a community and plan and work for the general good. Our own prosperity as individual farmers, our children's prospects in life, the importance of the school in which they are to be educated, all demand that we should be there and try to make our Grange worth while as a community builder.

W. F. TAYLOR.

Farmers' Clubs

Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

CLUB DISCUSSIONS.

The First Half-day Meeting of the Washington Center Farmers' Club was very pleasantly spent at Elmdale Stock Farm, the home of Mr. and Mrs. Frank Heinlen. The meeting was called to order by President F. L. Cook. After reading of the minutes roll call was responded to by naming a Club improvement. Music by Mrs. Henlein and Mrs. Dellworth, Mrs. Gilman presiding at the organ. "Deep Plowing and Sub-soiling," was led by C. N. Cunen. "Resolved, that feed can be produced more economically by growing corn than oats," was led by F. M. Brown. Messrs. Brown, Henlein and Campbell took the stand for corn, and Messrs. English, Cunen and Cook favored the oats. Each one stood firm in their belief and at the close of the discussion each was of "the same opinion still." Birdie Cunen then gave a recitation and Mrs. Gilman and Mr. Dell sang a duet. Mrs. Crowel read a paper on "South America." After several questions were answered in the question box, the hostess served a very nice luncheon of coffee, sandwiches and cake. Adjourned to meet at Fair Acres, the home of Mr. and Mrs. Eugene Wagner, the second Thursday in June.—Cor. Sec.

Food Preparedness.—Union Farmers Club, of St. Clair county, met in May at the home of Mr. and Mrs. Albert Bade, northwest of Capac. Although it was a very busy time, sixty-eight of the leading farmers and their families were present, and one of the most successful meetings of the season was held. President Albert Tosch presided, and Mrs. Maude Kemp acted as secretary. The program was opened by singing "America," followed by prayer led by Elder McCue of the M. P. church of Capac. This Club has enjoyed a steady growth, and at this meeting a number of new members were admitted. With a view to improving the sessions, a motion was adopted providing for the making out of a yearly program in advance. A. E. Stevenson addressed the meeting regarding war matters, laying special emphasis on food preparedness. Among other things, he said that in general people had not begun to realize how critical and serious the conditions, resulting from our entrance into the war, were, and that it was his sincere belief that we had at least from three to five years of fighting ahead of us. He stated that we were experiencing a food shortage now when we are just beginning to prepare for war, and that when it is considered that in a few months we will be carrying on war operations on a gigantic scale, the alarming situation confronting us becomes evident. His address was discussed by a number of those present, including Messrs. McCue, Petz, Tosch, Cook, Bauers and others. The county agent then followed with a short talk describing how the organizations, such as Farmers' Clubs, could help conditions confronting the farmer, and urged every member to keep their community in close touch with his office. The meeting was especially fortunate in having Mrs. Judge present, who delighted the people with several high-class vocal selections. This being the first meeting held at the Bade home, the Club named the place Pleasant View Farm, in accordance with their usual custom. When discussing Mr. Stevenson's remarks, a number stated that they had not realized that the situation confronting our country had become so serious, and they felt that his message was one which everyone in that part of the county should hear. Accordingly they favored the calling of a big patriotic meeting at Capac on the evening of May 30, and a motion to this effect introduced by John Cook was unanimously carried. The women present also felt that they should get a clearer idea of how they could help, and requested that a lady speaker be obtained for this meeting. The speaker of the day was heard to remark that he had never seen a more patriotic and loyal crowd. The June meeting of the Club will be held at the home of Mr. and Mrs. Louis Kaiser.



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LIVE STOCK SLIGHTED IN NATIONAL CRY FOR BIGGER CROPS.

In the hue and cry which have been raised through the state and nation to spur farmers on to producing bigger crops, Dean Robert S. Shaw, head of the Department of Agriculture in the Michigan Agricultural College, sees possibilities of danger to the live stock industry. Unless farmers and live stock men, he declares, carefully conserve and save their breeding stock, the state will in a short time be hard pressed to meet the nation's demands for meat, and blood for new herds.

"Unprecedented efforts," said Dean Shaw, "are being put forth by a great variety of organizations to stimulate increased crop production throughout the United States, for the purpose of meeting an impending food crisis, not only in America but in all parts of the world as well. Farmers are being urged to produce maximum crops of staples such as wheat, rye, corn, oats, barley, potatoes and beans. Boys' and girls' clubs are being organized to increase vegetable production, and city, town and village gardening is being stimulated and fostered as never before. The easily perishable vegetable, by partial replacement of the staple, may effect some saving in the latter, but the real relief at home and abroad is dependent upon the production of meats, milk, wool, work, cereals, edible legumes, and tubers.

"In the nation-wide propaganda to increase crop production, the animal industry has not, up to date, been given due attention. Publicity has been limited largely to the banker and to boys' and girls' pig and calf clubs. Any stimulus applied solely to cash crop production is certain to result in diminished animal production. On January 1, 1917, there were in the United States, 21,126,000 horses, 4,639,000 mules, 63,617,000 cattle, 48,483,000 sheep, and 67,453,000 hogs. During the previous year there was a slight decrease in horses, sheep and swine, with some increase in cattle and mules. Since 1910 the number of sheep has decreased. The increase in mules, horses, cattle and swine has been slight and not in keeping with our increased population and the combined home and foreign demands.

"Estimates indicate that fully fifty per cent of the breeding stocks of Europe have been already destroyed, which means that should the war cease soon, they will have to rely on other sources for some of their meat, milk and wool supplies for two or three years to come. Prices offered on our American markets for meat animals are so dangerously high at present, that sacrifices of breeding stocks are apt to occur. The next three years would seem to present an unequalled opportunity for the American stockman to increase his product, pursuing in part, methods of production closely associated with the maintenance of soil fertility. Every agency in the whole country engaged in stimulating agricultural production, should ever keep in mind the importance of maintaining a proper balance which will stimulate the production of animals as well as crops."

As the year advances the Chicago market is receiving a falling off in supplies of fat cattle, both heavy steers and fat little yearlings, and this results in these cattle selling at advancing prices at times when the rank and file of the offerings are selling at declining prices. Many little yearlings have been showing up in the market, and it is plain that this policy is making serious inroads in the future beef supply of the country. High feed bills are responsible for most of this sacrifice of immature cattle, and great numbers of short-fed cattle are being shipped to market which, in ordinary times would be marketed along in June, July and August. It is a fact much commented upon that many of the steers marketed of late have come into direct competition with beef cows and heifers, and the larger share of the steers offered have dressed below 57 per cent.

Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Shy Breeder—Tuberculosis.—Would like to know what is the matter with my four-year-old Holstein cow. She freshened last October and has come in heat regularly every six weeks, been bred four different times, but fails to get with calf. How can I tell if my cows have tuberculosis? J. B. Y., Saginaw Co., Mich.—Your cow has perhaps cystic ovarian trouble. A competent Vet. can perhaps crush these cysts by manipulation, through rectum and vagina which, when done, she may breed. The tuberculin test, which is not expensive, is a pretty certain diagnostic agent in ascertaining whether your cattle are free from tuberculosis or not. If you have no local Vet. who is available, write your state veterinarian and he will doubtless arrange to have your herd tested with tuberculin.

Hole in Side of Teat.—What can I do for a heifer that just came fresh which has a hole about the size of a small darning needle in the side of one teat? F. P., Boyne Falls, Mich.—You had better employ a competent Vet. to scarify the edges of hole. Stitch or clamp edges together, then they will unite. In some cases a recovery follows placing a pin through the tissues and tying a string back of it, this sets up considerable inflammation and a union of the walls of opening may occur, but before the opening is closed, the wall should either be scarified or burned with a red hot needle or probe.

Collar Gall—Food Infection.—We have a horse weighing about 1600 lbs. that has a bunch on point of shoulder about the size of a saucer, with an open sore in center. The horse is not lame, but favors his shoulder in pulling. We also have some pigs that are seven weeks old which we have been feeding oats and corn. The one that died refused to eat, shook and trembled all the time it was sick. Some of the others scour. C. D. H., Milbrook, Mich.—Dissolve $\frac{1}{4}$ lb. acetate of lead, 3 ozs. of sulphate of zinc and 3 ozs. of tannic acid in a gallon of clean cold water and apply to sore shoulders three times a day. A portion of the padding removed from collar or sweat pad would relieve him when at work. The food supply of your pigs should be changed. Give each one that scours a dessertspoonful of castor oil, then give 5 grs. of subnitrate of bismuth at a dose three times a day. Are you sure that their water supply is of good quality?

A. H., Saginaw, W. S., Mich.—After reading your letter carefully the writer is unable to state positively what should cause the discolored spots on your hogs; however, he would advise you to consult a meat inspector or a competent Vet. to make an examination. Perhaps the buyers who rejected the pork you sold stated to you what ailed them.

Indigestion—Weakness.—One of our ewes is down and unable to get up; she first appeared dull, refused food and finally seemed to lose the use of hind quarters. She now eats some grain, drinks fairly well, kidneys move free, but her bowels are constive. We have another ewe showing similar symptoms, but is yet on foot. R. P. R. & Son, Caro, Mich.—You had better give your sheep one or two ounces of castor oil and keep the bowels open by giving a tablespoonful or two of olive oil daily or as often as it is necessary. Give her five drops of fluid extract of nux vomica, 5 grs. of salol at a dose three times a day.

Pinworms.—I would like to have you give me a remedy for pinworms in horses. C. J. D., Manistee, Mich.—After washing out the bowels with a considerable quantity of tepid water, then wash out with one part coal tar disinfectant and forty parts tepid water three times a week.

Apoplexy.—Can you tell me what is the matter with my calves? They will be apparently in good health, when all at once will drop to the ground helpless and when held up are perfectly limber. Some of them after falling lie perfectly quiet until dead, while others will jerk their legs and bellow as if in pain. J. O. G., Harbor Springs, Mich.—Doubtless your calves die from hemorrhage in the brain and its membranes, and is doubtless the result of an acute infectious disease, but its cause cannot be determined by correspondence. You should secure the services of a competent Vet. who should be able to determine the nature and cause of this fatal disease. Your local Vet. should be first notified, then he can enlist the services of your state Vet. if necessary.

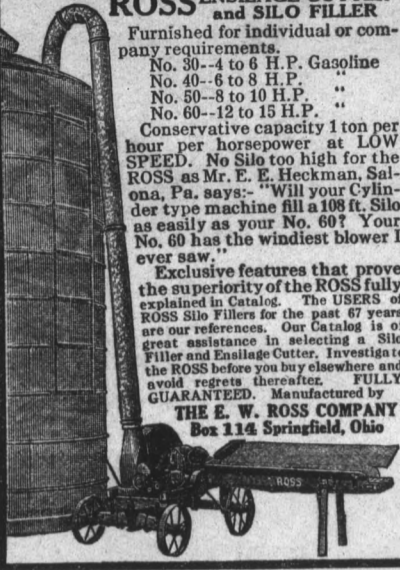
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O. I. C's. have some last fall gilts bred for Sept. farrow, and a fine lot of this spring pigs either sex, not akin. Farm $\frac{1}{2}$ mile west of Depot. Otto B. Schulz, Nashville, Mich.

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O. I. C. SWINE. Nothing to offer at present. H. W. MANN, Dansville, Michigan.

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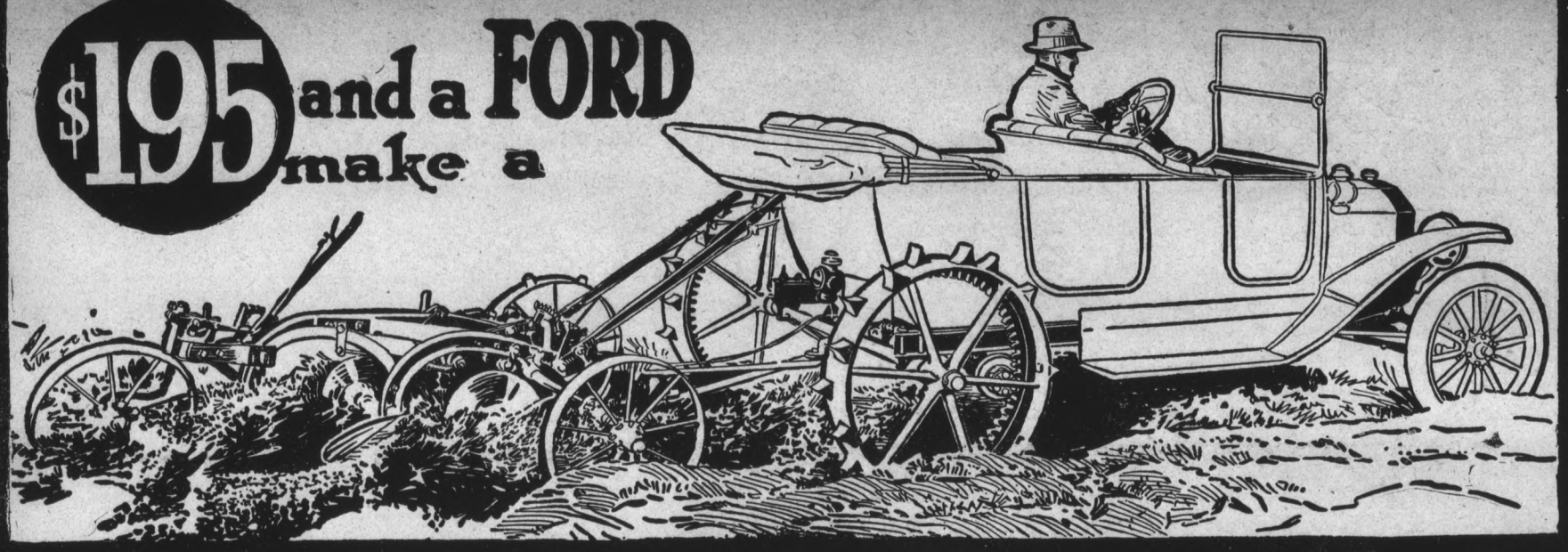
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