A Page for the Farmer and His Family

THE DAIRY

PUREBRED SIRES HELP HERDS

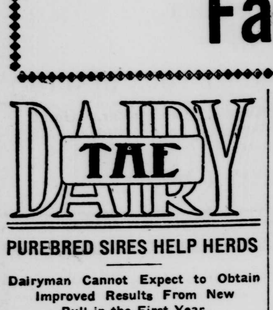
Dairyman Cannot Expect to Obtain Improved Results From New Bull in the First Year.

(Prepared by the United States Department of Agriculture)

The production of the dairy herds of the future through the use of proper sires of high quality is a subject that is interesting dairy specialists of the United States Department of Agriculture. There is ample evidence that such bulls improve the production of their daughters, but it is a difficult matter even to estimate what the limit in improvement in future generations will be.

Figures compiled by the field man of the dairy division of the department who is encouraging bull associations in Maryland, show the improvement in production made by daughters of purebred sires belonging to the New Windsor Bull association, as compared with their dams. The six daughters of Repose's Masher gave an average of 8,197 pounds of milk in a year, and 328 pounds of butterfat. The average of the dams of these young cows was 6,782 pounds of milk and 266 pounds of fat. The average increase, therefore, was 1,415 pounds of milk and 60 pounds of fat. An additional production of over 1,400 pounds of milk and 60 pounds of fat is no slight matter, the dairy specialists say.

The ages at which the daughters of Repose's Masher made their records were three, four and five years, the average being about four. "When farmers put in purebred bulls to replace scrubs or grades, they sometimes have the feeling that the presence of the new bull is a charm which will increase the production of the herd right away," say the dairy specialists. "This is not to be expected. The cows which are bred to the bull



Influence of Purebred Bull Is Shown Only on His Offspring.

are not themselves affected in their nature or their milk-producing ability. The influence of the bull is shown only on his offspring.

"It takes about four years before the first heifers from a new bull finish their first year's test; and as they are then only heifers, their mature mothers may still outdo them in production. The thing to be considered is, What character of young cows are to replace the old ones when the latter are gone?

"This is the principle involved in bringing in meritorious bulls—to make the future cows better than the present. A dairyman should not expect to see the good results from a purebred bull in the first year, but wait three to five years and then see how much better his herd is. The dairyman should look to the future and plan now by using a good purebred bull to have a better herd in from three to five years. The question is, When these years have passed will he be where he was three to five years earlier or will he be better off? The wise dairyman, who takes the right course now, will at that future time find himself reaping the benefit."

SALT IS REQUIRED BY COWS

Give Only Small Quantity on Feed and Permit Animal to Lick Rock Salt in Boxes.

Salt is required by all animals. The dairy cow requires an ounce or more a day, say specialists of the United States Department of Agriculture, and while she should be given all she needs, she should not be forced to take more than she wants. It is best, therefore, to give only a small quantity on the feed, and to place rock salt in boxes in the yard where she can lick it at will.

TO PRODUCE BETTER BUTTER

First-Class Article Can Never Be Manufactured From Poor Material—Cream Must Improve.

The time is rapidly approaching when producers of cream will have to get this product to market in better condition. First-class butter never has and never will be produced from poor raw material. Such products are a burden to the industry.

Roughage Alone Not Enough.

The cow cannot give a large milk flow on roughage alone. Get a good grain mixture to balance the roughage and feed it according to the milk the cow produces.

WATER MUST BE GIVEN TO CROPS

Too Much Sprinkling, However, Often Proves Injurious to Many of Plants.

WAYS OF IRRIGATING GARDEN

Suggestions Given Showing How the Work Should Be Done for Best Results—Thorough Cultivation Should Be Given.

(Prepared by the United States Department of Agriculture.)

Garden crops drink lots of water. It is just as essential to their growth as is plantfood or sunlight. Practically every home gardener who has looked upon his thriving garden with pride in the spring has experienced various degrees of lost hope during midsummer droughts when the plants he has worked with so carefully stand with drooped heads for lack of moisture. Experienced gardeners always provide some means of supplying moisture to keep their gardens growing vigorously through dry spells. Various ways of irrigating gardens are outlined by garden specialists of the United States Department of Agriculture.

The essentials for the successful watering of garden crops, they say, are, first, an adequate supply of water, and second, suitable means of distributing it to the plants. Whenever the garden is within reach of a city water supply a hose can be used to advantage, drawing water from the regular piping system. Where a supply of this kind is not available, often it is possible to pump water with a small gas engine and a pump. The source of water will vary with local conditions, and each gardener must work out his own problem, but there are well-defined principles regarding its application.

Too Much Sprinkling Injurious.

Frequent sprinkling of garden plants and the surface soil with the hose usually does more harm than good. The best results can be realized where water is applied only after the soil has become reasonably dry, and the plants are almost at the point of showing the need of water. The soil should then be well soaked, and no more water applied until it is again fairly dry. In the meantime thorough cultivation should be given, beginning as soon as the surface soil is dry enough to work.

There are three distinct methods of applying the water. The overhead-sprinkler system, used by many market gardeners, consists of pipe ¾ inch or 1 inch in diameter with a line of holes of about 1.32 inch in diameter drilled at intervals of every 2 feet along one side. The pipe is supported on lines of stakes driven in the ground across the garden. One end is capped or plugged, and to the other connection is made with the water



Vegetables Need Lots of Water—This Gardener Is Using It in Transplanting Tomatoes.

pump by means of a hose. The water is discharged at any desired angle or direction through the small holes on the side of the pipe. Water should be applied by the sprinkler system only during the latter part of the day or in the evening so that it will have plenty of time to soak into the soil overnight. An abundance of water should be put on at one time, and then no more applied until the plants really need it.

Expensive but Effective.

Subirrigation or underground watering is practiced in many localities, especially where the subsoil is rather close, and does not allow the water to flow away freely. Lines of ordinary open-joint drain tile, such as are used on farms for draining land, are employed. The tiles are laid in lines 4 to 8 feet apart, at a depth of 15 to 18 inches, so they will not be disturbed in plowing. In laying the tile the lines should be level and the joints placed close together. The water will flow through the tiles and escape at the joints into the soil. This is perhaps the best method of applying water to garden crops wherever the conditions are suitable for its use, as the water goes direct to the roots of the plants and the surface remains dry, making it possible to keep up continuous cultivation. The objection to the system is that it is rather expensive to install, but when once in place it will serve for many years.

FARMERS LOSE MUCH TIME KILLING WEEDS

Survey Has Recently Been Conducted by Experts.

Some of Worst Plants Have Been Given Special Attention and Bulletins on Best Methods of Eradication Have Been Issued.

(Prepared by the United States Department of Agriculture.)

Fighting weeds occupies about 30 per cent of all the time a farmer spends in cultivation of crops, according to experts in the United States Department of Agriculture, who recently have been conducting a weed survey. Special attention has been given to the best methods of conquering some of the worst weeds, and the following publications on their eradication or control may be obtained by writing to the department:

Farmers' bulletins: 610, Wild Onion; 660, Weeds in General; 833, Wild Oats in Hard Spring-Wheat Area; 945, Bermuda Grass; 1161, Dodder; 1166, Poison Ivy and Poison Sumac; 1002, Canadian Thistle.

Department circulars: 108, Chicory; 130 (five cents a copy), Hawkweeds or Paint Brushes.

Department bulletins: 511 (ten cents), Farm Practice in the Cultivation of Cotton.

In addition to these the following multigraphed leaflets on special weeds



Well-Cultivated Corn Field Free of Weeds—Food, Not Waste, Produced on This Land.

may be obtained by writing direct to Forage Crop Investigations, Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C.: Chemical Weed Killers; Eradication of Nut Grass; Wild Carrot; Crab-Grass; Killing Dandelions in Lawns; Sheep Sorrel; Chickweed in Lawns; Eradication of Quack Grass; Wild Morning Glory, or Bind-Weed; Honeysuckle as a Weed; Perennial Sow Thistle.

SEED MIXTURES ARE COSTLY

Much Advertised Clover-Timothy Contain Very Little of Former—Of Little Value.

So-called clover-timothy seed mixtures, which are widely advertised by certain seed firms at what may appear to be attractive prices, often contain so little alsike or red clover that they are of little, if any, more value than timothy seed, but actually cost nearly double the market price of that seed, say specialists of the United States Department of Agriculture. These mixtures are usually offered by the bushel, followed by the qualifying statement that a bushel weighs only 45 pounds.

In other words, this seed is offered as clover and timothy with the claim that the different seeds occur in the proper proportions for seeding, while frequently there is not more than 5 or 6 per cent of clover present—not enough to be of any value in the crop.

Persons who buy mixed seed can not be too careful to learn the exact proportion of the mixtures they get and the quality of the seed composing them. Otherwise, they are likely to pay an exorbitant price for seed that will not give the crop wanted.

COAL ASHES ON HEAVY SOIL

Particularly Valuable to Loosen Soil and Make It Workable—No Good as Fertilizer.

Coal ashes have little value as fertilizer, their use being mainly to loosen the soil and make it workable. They are most valuable on heavy clay soil, but should be screened to take out coarse material before they are applied, and should be spread evenly over the surface and thoroughly mixed with the soil. Wood ashes have fertilizing value, but should be applied before they become leached.

LIME BENEFICIAL TO SOILS

Particularly Advantageous to Garden Plot and Will Also Correct Sourness of Land.

An application of about 50 pounds of hydrated or air-slaked lime to a garden plot 30 by 60 feet in size will often prove beneficial. Lime has the effect of loosening and pulverizing any heavy clay soil and of binding loose, sandy soil. Lime also corrects sourness in the soil, which is often due to lack of drainage, but in a case of this kind drainage should be secured.

FARM STOCK

MILK ESSENTIAL FOR STOCK

While Good Pasture Is Important for Calves No Substitute Will Take Place of Milk.

(Prepared by the United States Department of Agriculture.)

"You cannot starve a young animal so as to check its growth, and still get good results." This comment by a Missouri farmer on the problem of preventing runtiness in live stock is in accord with the experiences of several hundred other live stock owners who have contributed their experience to the United States Department of Agriculture's study of this subject. "Starvation," he adds, "caused by the robbery of the weak by stronger animals, improper and unscientific feeding, indigestion caused by careless



A Good Bull to Head the Herd.

feeding, unclean troughs, pails, and swill barrels—all of these things cause much of the trouble in farmer's experiences, especially in their hog lots."

In discussing the importance of milk as an essential food both for live stock and people, he remarks that while good pasture is very essential in the growth of calves, for veal calves no substitute will take the place of fresh cows' milk. "From my own experience," he states, "I know that no young animal will recover from retarded or stunted growth. As a child I was normal in size and my parents were of strong, sturdy, Scotch stock. When, some years ago, my parents settled as pioneers in Iowa, meat was a luxury, and milk and butter were unobtainable, at least for the first year. At the end of the year we got a cow and chickens, so our living conditions improved." He adds that malaria followed, and, although he outgrew the effects of the disease, he "never gained the physical strength, weight, or development of bone and muscle" that he should have had. "My normal weight," he says, "has been about 125 pounds, and still my health has been the best since I got the 'shakes.' Keep your young animals growing."

PRODUCTION OF GOOD HORSES

Increase in Number of Draft Animals Held to Be Great Need, Says Wayne Dinsmore.

Horse dealers feel that the horse is "coming back." According to information gathered by the Horse Association of America and transmitted to J. F. Kuehn of university farm, secretary of the Minnesota Horse Breeders' association, more draft horses are now being sold for city use than for many years past. Increased production of good horses is held to be a great need at present. Wayne Dinsmore, an authority well known in horse circles, says: "You can safely assure the farmers of a better market for their surplus animals."

HIGH SILLS CAUSE OF LOSS

Nebraska Breeder Finds That Little Pigs Are Unable to Follow Sows Into Pens.

Many pigs are lost and others are stunted in growth as the result of exposure because of high sills in front of hogpens. This is the observation of a Nebraska swine grower in a letter to the United States Department of Agriculture on the cause of runty live stock. He urges that stockmen examine their equipment, and be certain that small pigs are able to follow the sows into the pens. Attention to balanced rations, sanitation, and pure water are likewise mentioned as methods of preventing runts.

BENEFIT OF STABLE MANURE

It Should Be Balanced With Acid Phosphate, Which Is Comparatively Inexpensive.

Manure contains humus in plenty and all the necessary plant materials, as well as bacteria which put these materials into the most usable shape for crops. To get the full benefit of stable manure, however, it should be balanced with acid phosphate, which is comparatively inexpensive.

KEEPING HARNESS IN REPAIR

Neglect Results In Injury That Lessens Durability—Sew With Strong Linen Thread.

Neglect of harness results in injury that greatly lessens its durability. The sewing, which should have been done with strong waxed linen thread, must be kept in good condition. All buckles should remain solidly in place. It is advisable to wash and oil harness frequently.

GOOD GENERAL PURPOSE BARN

Will Accommodate Large Dairy Herd and Horses.

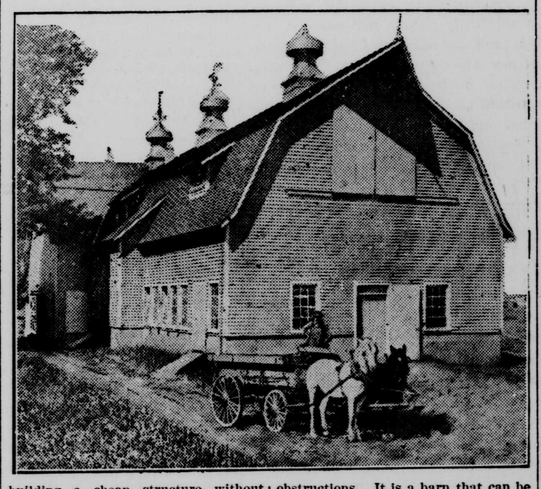
ALL DRUDGERY IS CUT OUT

Equipment Makes Care of Stock Easy —Provisions for Ventilation and Sanitation Tend to Increase Production.

By WILLIAM A. RADFORD.

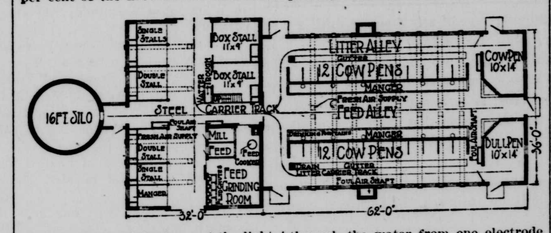
Mr. William A. Radford will answer questions and give advice FREE OF COST on all subjects pertaining to the subject of building work on the farm, for the readers of this paper. On account of his wide experience as Editor, Author and Manufacturer, he is, without doubt, the highest authority on all these subjects. Address all inquiries to William A. Radford, No. 1827 Prairie avenue, Chicago, Ill., and only inclose two-cent stamp for reply.

On many farms the dairy herd is not large enough to demand a separate barn; in that case a general purpose barn is used. In fact on most small farms this is the most convenient and efficient type of building. It serves to house not only the dariy herd but the horses as well. In building this barn, however, it is important to install the right kind of equipment and use the best materials. Extra expense at the start will save money in the long run. Many farmers make the mistake of



building a cheap structure without realizing that it will not last any length of time, and will be a continual source of trouble and expense as long as he has it on his farm. The farm barn should be carefully planned on paper before it is built and all possible angles considered carefully. Then when it is built it will be a source of pride and real satisfaction to the owner, and a wonderful asset in more ways than one. It will mean a great saving in labor, relief from drudgery, and increased production from the animals.

When the barn shown here was planned all these things were taken into consideration. First the actual construction was studied. It was decided that a frame structure on a substantial concrete foundation would make a very practical and attractive exterior. The roof is gambrel shaped, and large ventilators have been installed to draw off the foul air. Incidentally it is well to mention need of lightning protection. Ninety-nine per cent of the fires on the farm have



been caused by lightning and the lightning rod has been found an effective preventive.

This building is built T-shaped, with the horse stalls in the cross wing and the cow stalls in the long section. These two sections are separated by a solid wall, an arrangement required by health departments in some states. In the horse section there are two double stalls, two single stalls and two box stalls. Fresh air intakes at regular intervals along the wall just above the stalls insure a continuous supply of fresh, invigorating air. The stall partitions are of the latest steel type and the floor is concrete Just beyond the horse barn is a 16-foot silo connected with both wings of the barn by a carrier system.

The other part of the wing containing the horse stalls is divided into feed rooms where the feed is stored and prepared for all of the animals. This feed is loaded on to the feed carrier, which runs on a carrier track in the center aisle and carries without any trouble to the far corner of the barn.

There is room for 24 cows in the other section of the building. These stalls are arranged in two rows facing each other, with litter alleys in the rear of each row. As in the case of the main aisle in the center, these litter alleys are also equipped with carrier tracks and litter carriers which carry the manure and litter directly from the stalls to the manure pit. All stalls are divided by steel partitions and fitted with sanitary stanchions and drinking cups. These features are important and should not be overlooked by the farmer. A steady water supply, such as is furnished by individual drinking cups helps to increase the milk supply and also eliminates the work of driving the cows to a trough.

All along the stall floor are high double hung windows insuring plenty of daylight to make the stalls as cheerful as possible. Fresh air inlets in the cow barn, as in the horse section, provide plenty of fresh air at all times. Foul air shafts draw off the poisonous gases which are liable to settle near the floor. At one end of the cow barn are two pens for cows and bulls. Although giving an impression of bigness this building is not unusually large, its dimensions being 94 by 32 feet.

The building is of plank frame construction, which gives a high, roomy hay mow free from posts and other obstructions. It is a barn that can be used with advantage by all small farmers.

When Franklin Pierce Took Office.

On March 4, 1853, the last native son of New England elected to the presidency took oath of office, when Franklin Pierce of New Hampshire was inaugurated. Pierce was only forty-eight when he assumed office, and his personality and his vitality made a great impression on the people. He was singularly handsome, and his inauguration attracted greater crowds than any that preceded it. The event was marked by the first mention of profiteering on the part of the hotelkeepers of the capital, it being recorded that hundreds of men slept in the rotunda and warm passageways of the capitol to avoid paying the extortionate prices asked for rooms.

New Type of Boiler.

In a recently developed boiler of a new type the steam is generated by passing heavy currents directly through the water from one electrode to another, according to Popular Mechanics Magazine. A claim of 95 per cent efficiency is made for the apparatus. In structure the boiler is quite simple, being a rugged, vertical cylinder containing the vertically arranged electrodes. Steam pressures of up to 220 pounds are generated with a voltage ranging from the minimum to a maximum of 3,000. The quantity of steam is ingeniously controlled by means of automatic valves which reduce the water level as the demand for steam decreases. Immediately the top electrode is uncovered generation ceases.

MUST HAVE HAPPY ENDINGS

Playgoers Will Not Stand for Dramas That Finish In an Atmosphere of Gloom.

A popular novel had been dramatized and all the critics declared that, while dramatic art had not been transgressed and all the scenes were as true to life as in the novel, something was lacking. It was soon discovered what was the matter. The story ended unhappily. What one may like in literature, one doesn't in drama.

So the third act was rewritten and a joyous climax substituted. The effect was instantaneous. "The reception of the play," we learn, "was electric. Those who were seeing it for the first time were thrilled with this great exposition of American life. Those who had seen it in its first form marveled at the quickening of the piece.

And yet the cognoscenti agreed with one voice that the story which closed in unhappiness was the truer art, with its logical and inevitable finale. Nevertheless, one of the noted critics who came to the revised performance said: "I'll have to admit that I'm lowbrow. I like the accepted, tried forms better."

So that's the difference between the drama and the novel. "Tess of the d'Urbervilles" goes out in gloom, but what a weak thing if Tess and Angel Claire had "lived happy ever after."—St. Louis Globe-Democrat.

Mars Must Be Satisfied.

According to a recent computation, Austria devotes only a little more than 3 per cent of the total budget to the support of its military forces. More than 19 per cent of the total public expenditures of France, and 12½ per cent of those of Great Britain are for the army. Czecho-Slovakia allots nearly 17 per cent of its revenues to the same purpose, and Jugo Slavia more than 28 per cent. Hungary, Austria's next door neighbor, has assigned 22½ per cent of its budget for military purposes.—The Living Age.

What Must I Do to Be Saved?

By REV. B. B. SUTCLIFFE

Extension Department, Moody Bible Institute, Chicago.

TEXT—Believe on the Lord Jesus Christ and thou shalt be saved.—Acts 16:31.



Our eternal destiny does not depend on what we do with certain things but what we do with a certain person and that Person is the Lord Jesus Christ.

Men continually try to find salvation by doing various works which they think are sufficiently meritorious to bring what they seek. But after a man has done all he can do he finds himself convinced that by his own work he has not obtained what he sought. Do what he will he cannot find salvation until at last, like the jailer, he cries, "What must I do to be saved?" (Acts 16:30). The answer today is the same as when this question was first asked, viz.: "Believe on the Lord Jesus Christ and thou shalt be saved" (Acts 16:31).

The sense of condemnation rising from conviction of sin is the common heritage of all men. To find relief from this sense of condemnation man turns to various expedients, but the more he tries to rid himself of it the more he feels condemned. But when he turns to the Word of God he finds written in Jno. 3:18, "He that believeth on the Son is not condemned."

The possession of eternal life comes over the same pathway, that of faith in Jesus Christ. It is not for the man who works but, "He that believeth on the Son hath everlasting life" (Jno. 3:36).

If it be a question of justification before God, it is simple faith and not works of any kind that brings it, for we are told in Acts 13:39, "By Him (Christ) all that believe are justified from all things from which ye could not be justified by the law of Moses."

No wonder, then, we hear Jesus saying to those who asked Him what they should do to work the works of God, "This is the work of God that ye believe on Him whom He hath sent" (Jno. 6:29). Faith in Christ is the only medium by which we may secure gifts from God, but He has no gift that may not be ours in answer to our faith in this great object of faith, Jesus Christ. It is not therefore my good life or works, not my church or religion, not my integrity of character or honesty of purpose, nor anything that I can do, which is the object of my trust, but it is what Christ has done and is, that must become the object of my faith.

Many have vague ideas about faith and think of it much as a pagan might think of some fetich. But it is not the faith but the object of faith that holds the power and brings the blessing. Noah's faith took him into the ark because he believed that safety from the judgment about to fall was to be found only there. Thus it was the ark, the object of his faith, that saved him. So the believer today finds his faith takes him to Christ, the object of his faith, who saves him.

A man may have splendid faith, but if the object of his faith be unworthy the faith is useless, however good it may be in itself. For illustration: A man may place his money in a bank and by doing so prove he has splendid faith in that bank. If the bank fails and the man loses his money, it is because the object of his faith was unworthy, and not because there was anything wrong with his faith. Again, a man may have good faith in a boat and prove his faith is good by entrusting his life to that boat. But if it goes down at sea and the man loses his life, it is not because his faith was not of the right kind or that there was not enough of it, but simply because the object of his faith was bad.

Today there are many men and women trusting their future welfare and their hope of salvation to good works or upright living or honesty of purpose or sincerity, who will lose their souls not because there is anything wrong with their faith, but because any of these things, however good in themselves, is an unworthy object for faith. All of them put together could never save a soul. Nothing but Christ can be a worthy object for faith which brings salvation.

A man may be a moral, praying, church-going man, as Nicodemus was, and not be saved; may be an upright, clean, almsgiving man, as Cornelius was, and not be saved; may be a zealous man, blameless before the law, as Saul of Tarsus was, and not be saved; but none can be a believer in the Lord Jesus Christ and not be saved, because the Word of God still declares, "Believe in the Lord Jesus Christ and thou shalt be saved" (Acts 16:31). It is Christ, the supreme object for the sinner's faith, who can and will and does save all who put their trust in Him. The aviator in the air has no other stay or hope than the machine in which he rides. If the machine proves good the man is safe, but if the machine is bad it is just the reverse, for he has no other stay—he has put his faith in it. So to be a believer on Christ means that a man has no other help or stay or hope than the Lord Jesus Christ.

Nobility of Character.

Nobility of character manifests itself at loopholes when it is not provided with large doors.—Mary E. Wilkins.

Forgive and Be Forgiven.

For if ye forgive men their trespasses, your heavenly Father will also forgive you.—Jesus.

The Best and Next Best.

To love and win is the best thing; to love and lose is the next best.—Thackeray.

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