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The Agriculturist.

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE, LITERATURE, AND NEWS.

ANDREW LIPSETT, Publisher.

AGRICULTURE THE TRUE BASIS OF A NATION'S WEALTH.

ANDREW ARCHER, Editor

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CLERGYMAN FARMERS.

In the early history of Massachusetts a large proportion of the ministers were farmers, and generally good too, for then, as now, the better the education, the better the farmer, as a rule. Nor did the healthy exercise...

BUTTER MAKING.—In a communication to the Rural New Yorker, F. D. Curtis says:—

If I have made a discovery, or if everybody knew it before me, I will tell it all the same. As soon as the cream shows signs of "coming," pour into the churn two or three quarts of water—as near ice-cold as it is possible to get—and the butter will gather a great deal quicker and come hard and firm. I tried the cold water (ice water) on the start and found it made the cream too cold and kept the butter from coming; but put in at the last end it is a capital idea and will save hours of churning in the course of the season. Butter will come in fifteen or twenty minutes, as a rule, if the cream is in the right condition and temperature. A cool cellar is cool enough to start the churning, and as near right as most farmers can get it without thermometers and ice, and cold water will lower the temperature for gathering. The temperature of our cellar is 64 degrees, and the butter invariably comes quick with the help of the cold water, which is probably two degrees colder. When the cream stands too long on the milk before the skimming, the butter will not come so quickly and it is always poorer, and such butter will not keep well. This is one reason, and the main one, why there is so much rancid butter. Better churn oftener and have good, sweet butter, and skim oftener also.

EUROPEAN AGRICULTURE.—Mr. Falton of the Baltimore American writes in a recent letter from Europe:—

"In our recent journey through Southern France, the entire circuit of Italy, through a considerable portion of Austria and Germany, through Belgium and Northern France, the distance being nearly five thousand miles, we observed that the much larger portion of laborers in the field were women. They were not only making hay, but ploughing, mowing, hoeing, grubbing and planting. They were not only doing the work of men, but such work as men usually depend on horses to perform. In all the vast country we did not see a horse-rake, a cultivator or any labor saving implement. The only cultivator was the primitive hoe, and a line of women, mostly superintended by one or two men, bent their backs to the labor. The ploughs looked as if they might have been modeled after the implements which Noah landed from the ark. We did see one threshing machine standing on a cart at a depot in Austria, which was the only labor-saving machine that attracted our attention. But even in Italy, with the exception of the Roman Campagna, the culture was fine, and the crops most promising of a rich harvest. Every inch of ground was made to yield to the utmost, and wheat, corn, grapes, and fruit all bore evidence of skillful cultivation."

Agriculture.

UTILIZING WASTE PLACES.

How many farmers have ever taken the trouble to make a careful estimate of the amount of unutilized land on their farms? There may be several acres overgrown with brush and each year becoming more difficult to clear off and put in productive condition or there is a considerable area from which the timber has been removed, but which has not been suitably cleared of the brush and resulting rubbish. It is left to produce berry bushes, and a great variety of weeds until the soil is so abundantly supplied with the enemies of profitable culture that it will require years of patient toil to eradicate or subdue them. There are on many farms acres of valuable land rendered utterly worthless by permitting the water from springs to run over and leach through it. A small outlay in draining would put the land in productive condition, and in many cases the spring water might be conveyed to distant pasture fields, or the house barn, where its presence would be worth more than the cost of the improvement.

In close times like the present it behooves farmers to have a careful regard for the principles of true economy. If an outlay of five dollars will make a return of five cents that same outlay in a single season, then surely hard times furnish no excuse for neglecting the improvement, but rather an argument and incentive for prompt action. But the conspicuous waste places are only a part of the land which year after year is permitted to lie idle, or worse to produce only weeds. The unutilized land along the fences of our grain fields amount to a considerable in the aggregate, and close economical management will reduce this loss to the minimum. Careless ploughers will leave much more unutilized land next to the fence than there is any need of leaving on a farm, fenced into small fields, it is plain to see that a strip of a few feet will amount to several acres. The loss of this land should be charged to the cost of fencing, which is made needlessly high on most farms.

Much land is rendered almost worthless by shade trees in fields where they are not needed. Stumps and large stones are left to encumber the ground and impede work. Land from which an early crop is taken is permitted to lie unused for several months when it ought to be producing something. Farmers are regarded as a very economical class, but there are many lessons of economy to be learned in our farm management, and one of them is to utilize every acre, and every rod of our farms to the best possible advantage.

There is probably not a farm of fifty acres or more so closely managed that there is not on it enough unused productive area to raise several dollars worth of produce. There are farmers who think they cannot afford to supply themselves with agricultural papers, who are annually losing through by failing to utilize the land they have to pay the subscription price of all that are published in the country. They might do no better if it is true, if they subscribed for them all, but any influence which tends to set men to thinking, investigating, and experimenting is likely to improve their practice. If by this brief article we lead any of our readers to ask themselves whether or not they are subjecting themselves to unnecessary loss in the disse of larger or smaller portions of their lands, it will not have been written in vain.—The Husbandman.

BUY A FARM.

There are a great many men in our large cities and manufacturing villages who are now out of steady employment, but who have a few hundred dollars laid up. They are not farmers, and can never expect any great pecuniary success in agricultural pursuits, but they long for a home where they can obtain a portion of their living from the soil. Such men may do well to buy these small farms at the low prices asked. They can pay for them without running in debt, and by industry and no greater economy than they are now compelled to practice, they can, after a few years, have comfortable homes on farms which will yield them a good living. Of course it will be necessary to observe the practice of successful farmers in the vicinity. We know more and more contented every year. But if a young man with good health, and a training for agricultural pursuits, is ambitious to secure a large

and productive farm from which to make money, and is clear headed enough to see where he can make a speculation, by buying a good and large farm, he need have no fears about running in debt for a portion of it. Although we claim that a man cannot, ordinarily, make money at farming in New England wholly on borrowed capital, for which he must pay, besides taxes, six per cent. interest, yet there are often farms offered in market for so much less than their actual value, that a shrewd man need have no hesitation about buying and owing for a portion of it until such a time as he can turn the property into cash. A great many farms are being sold in New England for about what the land is worth, thus leaving a home free of cost.—New England Farmer.

CROSS-BREED JERSEY AYRSHIRE COWS FOR THE DAIRY.

Which is the best cow for farm and for family use? Where the farmer uses his cows for butter-making, experience would go to show that the grade Jersey is essentially the farmer's cow, a fact widely appreciated. The mark of the Jersey is now noticed on every hand in the beautiful and picturesque colors and graceful forms of the cows seen grazing in the meadows and dotting the pastures. No other cow is so easily kept, or more docile, or gives a richer return in butter for the food consumed, than the grade Jersey. But something depends upon the cow from which the grade is derived. Unless the dam of the cow is a copious milk, and is able to transmit this quality to her progeny, the principal end sought in the crossing is missed. The Ayrshire is the most prolific milk cow. For large yields, and for easy keeping, she is unsurpassed. To cross an Ayrshire cow with a well selected Jersey bull ought to give the best dairy cow that can be readily produced. The large milk yield of the Ayrshire, is united with the large cream yield of the Jersey, and we can have all we can procure in one way from the Jersey, multiplied by the excess of the yield by the Ayrshire. Herewith we give a portrait, the first ever published, we believe, of a cross-breed Jersey-Ayrshire cow. This is a young animal, a few days over two years old, but has been milking for five months, and has produced over one pound of butter per day from a little more than eight quarts of milk. She was bred by Mr. Thomas Fitch, of New London, Connecticut, a gentleman who has been experimenting in crossing the Jersey upon every known breed of cow, including the "Sacred cow of India," for over thirty years, and who long ago settled on the Jersey Ayrshire as the best cross possible for large yield and rich quality of milk. The cow in question is a white and brindle in color, with a golden yellow skin which shows through the fine, short silky hair at every place where the white prevails. As a proof of the easy keeping of this class of cows, the original of the illustration has been kept in excellent condition from the workings of less than half an acre of lawn with two quarts of middlings daily; and upon this feed has been, and is, producing a little more than one pound of butter per day. For so young a cow this performance is worthy of being recorded among those of the many good cows whose portraits have from time to time been exhibited in the American Agriculturist. It is evident that this is one of the best cows for the farm and for family use.—American Agriculturist.

LABOR SAVING MACHINERY.

Some of our intelligent, thoughtful writers have been attributing the surplus of unemployed labor to the enormous extent of the labor saving machinery in use. Many of the witnesses before a Congressional committee recently in session in New York, insisted upon the destruction of labor saving machines as the readiest means of giving employment and prosperity to the working people. They held that if five men were doing a certain kind of productive labor and someone invented a machine where with one man could do as much as the five men, four men must lose their work. Now the contrary is true; so far from the four men going without work the probability is that they will have more work to do. Take the case of Arkwright's jenny and Cartwright's loom: English spinners and weavers thought they would ruin their business and so destroyed them, but the statistics prove that the inventions not only doubled the number of spinners and weavers, but the number of working Englishmen of all trades. It was the same story in our own country with Whitney's gin to clean cotton, and Lowell's loom to weave it. In the re-arrangement of labor which is always going on, there is always some misery but we should not avert it by abolishing labor saving machines. Take the sewing machine: it threw thousands of men and women out of work but it greatly cheapened the cost of clothing for all the world. The disadvantage of the few was nothing as compared to the gain of the many. The steam engine invention of James Watt is the great labor saving invention of the world, yet the blessings which it gives the laborer cannot be estimated; it diminishes the cost of the necessities of life, because it practically annihilates distance, and by its use, breadstuffs and provisions may be quickly transported from one to another portion of the globe. A recent number of a French journal makes the following marvellous statement: "According to recent official statistics, the total power of all the steam engines existing in France is 1,500,000 horse-power, representing the actual labor of 4,500,000 horses, or 31,500,000 men. This last aggregate is equal to ten times the present industrial population which amounts to 3,400,000 souls, but from which must be subtracted old people, women, and children, leaving a remainder of 3,200,000 working-men."

It is interesting to compare the above data with the condition of affairs in 1788, before steam engines were introduced in France, as we are thus led to appreciate the enormous revolution which steam and improved machinery has produced. Just 50 years ago, in every \$200,000,000 worth of French products, 60 per cent of the value represented labor, and 40 per cent, raw material. To-day this ratio is exactly reversed, although labor has increased 40 per cent. At the present time the total industrial productions of France aggregate \$2,400,000,000. Of this \$1,400,000,000 represents raw material, and the remainder labor. If the same proportion as existed in 1788 applied now, taking into account the increase in labor noted above, no less than eleven-twelfths of the above amount, or \$2,200,000,000 would be the cost of handwork. Roughly, then, steam engines and improved tools have produced an economy of \$1,200,000,000, more than this, if they were suddenly swept out of existence and forgotten there are not enough men and animals in the country to supply an equivalent amount of power; and if there were, there would be no way of procuring the necessary food for their support.

In our country last year we raised two thousand million bushels of grain which would not have been gathered but for labor saving machinery. The "Scientific American" presents statistics showing that in our great grain producing States, in spite of

more correctly, in consequence of the rapid introduction and improvement of agricultural machinery, the farmers and farm lands increased in number more than 50 per cent. during the ten years ending 1869; and about 30 per cent. during the next ten, notwithstanding the losses incident to the war. This was 13 per cent. more than their share of the entire population. History clearly teaches that the multiplication of machinery increases the demand for labor and increases its capacity to earn wages.—Maine Farmer.

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KEEP THE ANIMALS WARM.

The first blast of wind from the north is a reminder that animals, however tough and hardy, need shelter in winter. It will take less food to keep farm stock over winter in warm stables than when exposed to severe cold. Of course, good wood, stone or brick barns and stables are expensive, and there are many farmers, especially in the recently settled districts, who have not the means to build such structures, but there is no one too poor to furnish some kind of a shelter for their animals. If a man cannot afford to build what he desires, let him do the next best thing, and build something which will furnish shelter even if it is nothing better than a shed with sod for walls, and a roof of brush or cornstalks. All attempts at elegance or extra convenience may be left out of the question where a man's purse is light; still, it is economy to keep all farm stock sheltered from cold, wind, and storms in winter, even if the owner does not possess enough of the human feelings to care for their comfort.

More than one-half of all the diseases and parasites which infest farm stock are the direct result of neglecting to furnish them with proper food or shelter during cold, stormy weather. Cattle of all kinds, when forced to remain in muddy, wet yards, during cold weather, are liable to various diseases of the feet. All kinds of farm stock are liable to take cold when exposed to storms, and from this comes a weakened constitution, which invites various kinds of diseases and parasitic insects. Weakened vitality or vigor in either plants or animals opens the way to hundreds of parasites which are resisted by the healthy individual, and the farmer should keep his animals in a condition which will enable them to ward off the attacks of such enemies. He has only to think of his own comforts, such as nutritious food and warm clothing, and consider how the reverse of these conditions would affect him, to understand how it is with his animals.

It is unnecessary to go into details in regard to the building of sheds, stables, or other kinds of structures for sheltering stock in winter, as every man knows best what materials are at hand or within reach suitable for such purposes, but the fact should be apparent to all breeders of animals that in all cool climates some kind of protection is required. Out on the plains and prairies of the West and South-west it is often asserted that sheep need no protection in winter, and it is often claimed by some that they do better without it than with it; but the frequent heavy losses by cold, starvation, and diseases plainly show that all this talk of mildness of climate is an error. Sheep and other farm stock may live through the winter without artificial shelter or more food than can be obtained on the range in those favorable localities, but they would certainly do better with added comforts every winter, and occasionally heavy losses might be avoided by making the necessary provision to protect and feed them when severe storms prevail.—New York Weekly Sun.

VALUE OF GOOD SEED.—A farmer of long experience says: "The result of my experiments with at least thirty-eight different varieties of wheat for years, proves beyond a doubt that good, healthy, unadulterated seed, selected and saved as farmers select and save their seed, will not run out or deteriorate in the least, but grow better. In June, 1876, I picked seven pounds of the best cent heads of my wheat, and drilled it eleven inches apart in rows, at the rate of only forty pounds to the acre. It grew most luxuriantly, and was entirely too thick for large heads. It attained a height of six and one-half feet, and much of it fell down. April 29th, it commenced heading; was reaped June 11th, and June 22d it was thrashed making, according to the report of a committee, over sixty-seven bushels per acre."

CROSS-BREED SHEEP.—At the New York State Fair there were exhibited some sheep bred from common Merino ewes and the Cotswold ram. The fleeces of the first cross measured five inches in length, and the wool was as fine as the Merino, and as easily combed as that of a Cotswold. The wool of the second cross, as long as that of the pure Cotswold, was still as fine as Merino wool. The carcasses of the cross breed sheep make excellent mutton, and is nearly as heavy as the pure Cotswold. We have frequently alluded to the advantage of this cross, and the interesting example at Rochester proves how successful and profitable a farmer's sheep it would be. The farmer's sheep is undoubtedly the cross-breed.—American Agriculturist.

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POULTRY HOUSES.

THEIR GENERAL REQUISITES.

Chickens require dry, and at the same time airy apartments, with room for abundant exercise. For this purpose the upper story of a hon house is well adapted, providing an easy entrance may be made, so that the young birds can have access to the ground and fresh air when the weather is pleasant. Fine weather and the free open skies, with the sun shine to bask in, give as hardy chicks. There is more than many imagine in the first start. The first few weeks govern the chick's existence, and decide the case for him. A large flock of chickens should never be horded together. A brood of eighteen or twenty for one hen and in one place is sufficient. The upper story of the building may be so arranged that the chicks may be led down and back and forth by means of an inclined platform made by placing long timbers on the ground on the back side, with one end resting on the ground, while the other would be fastened directly beneath the small low door left for this purpose under the eaves. The chicks will soon learn the way out and in. Across these timbers boards may be tacked horizontally to form the bridge.

Poultry houses must be provided with drinking vessels, which in the winter season is an important item. Iron vessels are preferable, although there are many varieties of stone and earthen. Where the poultry man is only a novice, and unwilling to incur any expense that is really unnecessary, home inventions answer every purpose. Wood is objectionable on account of the collection of bad odors that accumulate from the standing water. Wooden vessels cannot be so easily cleaned as iron or earthen. An old kettle that is put use in the kitchen makes a good, convenient vessel, especially in winter, as it can easily be thawed out, when frozen. Laying hens should never be allowed to drink ice-cold water. Something is also required to hold the feed in a cleanly state. Without this the chicks track through it and leave it soiled and uncleanly, intermixed with their droppings. In this filthy state it is not suitable for them, and they must be nearly starved to consume it.

When very young the birds should be fed often, and a few through eating all the feed should be removed. When they are old enough to pick kernels they need not be fed but twice or three times during the day. Sufficient can be left at morning for the day's supply if we invent some method for keeping it tolerably clean. For this purpose narrow but shallow troughs answer a good purpose. They should be so situated that the birds cannot run over or walk above them. There is no necessity of placing the feed in the most conspicuous places. If it be anywhere within reach, the birds will be pretty sure to find it. Above all, do not stuff the old hen that mothers the chicks with all the good feed she can hold. It is a bad plan. She soon weans her young, and oftentimes before they are sufficiently feathered to dispense with the nightly covering. Where many chicks are congregated together, they receive bruises that cause them to show white feathers, which are otherwise caused by bad brooding. The writer has found proof of this fact during the past season.

Many prefer several small houses or buildings to one large one with compartments, and in some instances it is to be preferred. The best method for raising chickens is the old-fashioned one of confining the mothers in small coops, and allowing the chicks to run at large wherever they please. To do this with success the broods should not come off until about the first of June, when the long rains are over. Earlier chickens may come into laying sooner, and are more profitable for exhibition, but in the long run the later breeds are the better. A large percentage are raised, and they make more rapid and vigorous growths, whereas, many of the winter or early hatched become stunted from confinement, want of proper exercise, and unnatural habits. If exhibition birds be the object, then we must put up poultry-houses. We cannot get along without them if the business be carried on at any great extent. For a few fowls, or even for chicken-raising, a small building, 10 by 12 feet, and 7 or 8 feet to the peak or roof, with one gable having a southern exposure, and all glass, answers a good purpose, and is satisfactory considering the cost, which is somewhere between \$20 and \$25—a little less at present prices for labor and materials. Any farmer accustomed to handling tools could erect such a building himself, and the money cost would then be much less.

There are many other plans: and indeed one can use his own invention, and adapt it to locality and circumstances, which is better yet. The writer has become disgusted with windows in the roof. They are better in the gable, or directly under the eaves. As a temporary thing, in a run for early chickens, the plan works admirably a portion of the day but at noon, when the sun is bright, the heat is too intense and the atmosphere too close for health.

AN OLD SUBJECT.

AGRICULTURE THERE ARE A GOOD MANY OLD SUBJECTS, AND LOTS OF NEW SERMONS HAVE TO BE PREACHED ON OLD TOPICS. PRACTICES CHANGE A LITTLE FROM YEAR TO YEAR, AND THOUGH THEY MAY DIFFER SOMEWHAT IN DIFFERENT LOCALITIES MOST MEN HAVE A WAY OF THEIR OWN AND ARE VERY LIABLE TO BELIEVE THEIR WAY QUITE AS GOOD AS ANOTHERS. AND THOUGH OUR READERS ARE ALL INTELLIGENT MEN, AND UNDERSTAND THEIR OWN FARMS AND METHODS OF WORK IN ORDER TO REACH RESULTS, BETTER THAN WE DO; YET WE CANNOT WELL HELP SAYING SOMETHING AT PARTICULAR TIMES WHICH WE DEEM REASONABLE, OR GIVING A FEW HINTS AND SUGGESTIONS ON PARTICULAR PHASES OF THE "WISDOM OF THE TIME"—NOT FOR THE WISE WHO ALREADY KNOW ENOUGH, BUT FOR THAT ONE POSSIBLE ONE OUT OF A HUNDRED WHO MAY NOT KNOW OR THINK; OR FOR THAT MAN WHO DOES NOT TAKE THE FARMER REGULARLY, BUT WHO OCCASIONALLY BORROWS IT OF HIS NEIGHBOR. AND SO LONG AS THERE IS A SINGLE ONE WHO "DON'T KNOW," JUST SO LONG OUR MISSION WILL CONTINUE IN FULL FORCE. WHEN ALL THE FARMERS IN MAINE BECOME WISE, AND KNOW ENOUGH ABOUT FARMING, AND CANNOT BE TAUGHT ANYTHING, OR CANNOT LEARN ANYTHING FROM THE EXPERIENCES OF OTHERS, OR FROM ACCUMULATED KNOWLEDGE DIFFUSED FOR THE COMMON GOOD BY MEANS OF THE PUBLIC PRESS—THEN WE SHALL STOP PRINTING THE MAINE FARMER.

This time what we have to say is about muck—an old subject, and has been said one, just now; for lots of people are saying bad things about muck, how is it of no value, and good for nothing but to keep hired men employed at shoveling it over. But we don't believe a word of it; and more than this, we know the testimony of hundreds of successful, intelligent farmers is in favor of muck, and both hands are ready to go up, if needs be, in voting for its usefulness and importance. Of course it makes some difference as to its composition and characteristics—as every farmer knows—of the substance which is variously termed muck, concerning its value. A deposit in a water-soaked swamp would be likely to be of little worth; while in another locality it might be so positively valuable as to possess decided manurial qualities, even though chemists might discard it for not containing a sufficient amount of "plant food." Frequently muck acts as a decided advantage to soil as a mechanical agency in improving its texture, and we have known numerous instances where the best result have followed its application. In other cases we have known so good results to follow the spreading of muck as a top-dressing upon grass lands in autumn, that it would be a very hard matter to make us believe it did not possess decided and positive value as a fertilizer, or it is almost like the term any better, as furnishing plant food to the crop to which it was applied.

Let the hundreds of farmers in our State who have used muck for the last twenty years, and who by this means have increased the bulk and value of their manure from the piggery, barn cellar and sheep shed, and have by its agency harvested larger crops and had fields left in better condition—say if they do not deem it valuable as a fertilizer alone, as their fields and crops will bear witness? Their judgment may not be the judgment of the laboratory, but on such matters we are willing to accept the decided opinion of any level-headed farmer in Maine. If they have used muck, either as an absorbent or alone, and derived benefit from it, we believe they know it; and when a practical intelligent farmer knows a thing he has acquired from practice, he is not in doubt about it—not much.

The last, best use of muck is as an absorbent—where an absorbent is needed," put in advocates of chemical farming. And where, about the farmers' premises, let us enquire, is it not needed? Everywhere about the stables to retain the liquid voidings of the farm animals, nearly all of which, at least three-fourths of all the fertilizing elements in the manure, now goes to waste—in the piggery, under the hen perches, under sink spouts, in the barn cellar, wherever any particle of liquid voiding or waste is allowed to run off or can be by this means saved. Here is where the great office of muck comes in—adding to the bulk of the manure

heap, and actually increasing its fertilizing capacity. We cannot believe, with some agricultural teachers, that muck used as an absorbent and compost has been a cause of damage or injury to our farmers; but on the contrary we believe it has been a means of better husbandry and larger crops to vast numbers who are ready to bear testimony on this point. Don't discontinue its use, farmers, but secure a large quantity now for use in the stables, pens and barn cellar, the coming fall and next spring. It will more than pay the expense in carting and handling.

SEED POTATOES.

THE CULTIVATION OF POTATOES HAS OF LATE YEARS BECOME A PRECIOUS BRANCH OF AGRICULTURE. WE NEED NOT SAY THAT THE STALK AND TUBER HAVE BEEN ATTACKED BY DISEASES BEFORE UNKNOWN, AND THAT INSECTS, SOME OF THEM UNKNOWN TO US UNTIL LATELY, AS THE POTATOE BEETLE, AND SOME NOT NEW, BUT IN GREATLY INCREASED NUMBERS, AS THE GREY GRUB, ARE THE CAUSE OF GREAT LOSSES IN POTATOE RAISING. WE ARE COMPARATIVELY SAFE FROM THE POTATOE DISEASE THAT BRITISH FARMERS, TO THEIR COST, ARE TOO FAMILIAR WITH. THOUGH NOT KNOWN IN CANADA ITS VISITS FORTUNATELY ARE FEW AND FAR BETWEEN. WE HAVE HAD BUT ONE VERY BAD VISITATION OF THE DREADED SCOURGE FOR MANY YEARS. OUR DRY CLIMATE IS THE MOST EFFECTUAL REMEDY OF THE DISEASE.

This season the potato crop has suffered greatly from blight. The growing ceased prematurely. By some this is attributed to the extreme heat that raged for some time. This may have had some effect, but we fear there has been a predisposing cause in the impaired constitution of the potato that renders it less able to resist extreme heat or any other unfavorable circumstance. The effects of the attack from potato bugs, when they were allowed to run riot on the leaves has been very injurious. The plants, through which the potato plant receives so much healthful nutriment have been, in not a few instances, eaten entirely, and the growth of the plant has been checked, and has ceased before the plant had come to full maturity. The quality of the potatoes was consequently inferior as an article of food to what it would otherwise have been. It was also injured no little for seed. Some farmers complain of a failure in many instances every fall.

In order to prevent as far as in our power this increasing degeneracy of the potato, we should select for seed such tubers only as are thoroughly natural. Any others are of impaired powers of propagation, and the crop grown from them must be inferior in every respect to crops grown from strong, healthy tubers. Like weeds &c. Of this there can be no doubt. It is applicable alike to animals and plants, and it is a general rule that disease or feebleness whether inherited or otherwise acquired, is too often a predisposing cause of disease in the offspring.—Farmers Advocate.

THOROUGHBRED vs. COMMON SHEEP.

A farmer in this county who is supposed to own a good common sheep as anybody in this locality sheared his flock, and after weighing the fleeces, found that each sheep averaged two and a half pounds. Take the whole number of sheep in this State and they probably will not average more than the above. Say that wool is worth twenty cents per pound, the profits from each sheep will be fifty cents. Take now an estimate of fleeces of the thoroughbred Merino and Cotswold which will not average less than eight pounds per head.—The net profits on each sheep, \$1.60 of \$1.10 in favor of the thoroughbred will command a higher marketable value. Now it costs the same to raise the thoroughbred as the common sheep; the mutton of one is as good as the other; the profits of the wool of the thoroughbred is three times greater than from the common. Every farmer owning a flock of sheep should make it convenient to purchase a thoroughbred ram to improve the quality and yield of his wool; such an investment will pay.—Live Stock Journal.

AGRICULTURAL EDUCATION IN AMERICA.

Agricultural education at the Mass. Agricultural College has at last been placed practically on the basis of free tuition by a recent action of the trustees, who voted "that each graduate (of which there are now over 150) of the institution be allowed the privilege of nominating one student to a free scholarship for the full course of four years." A friend has also offered to pay the tuition for the course of every worthy student presenting himself for admission to the next class, who shall meet the requirements as to scholarship, &c. The expenses of living have also been so reduced that the cost to those having the scholarships need not be over 150 dollars a year, a portion of which can be earned by work upon the farm. A farmer's son or any young man who desires to get a good agricultural education, has in these offers an exceptional opportunity.