

Efficient Farming

WHICH FERTILIZER SHALL I USE?

Every farmer should know what fertilizer to use on his farm and why he is using it. The use of fertilizers has increased greatly during the last decade but this increase is of little value unless the proper fertilizer was used.

Buying fertilizers by the brand name has been a practice long followed by farmers and should be discontinued if he is to get the most out of their use. Such names as "General Crop," "Wheat Grower," "Bean and Root Special," are often misleading and do not give the farmer any idea of the total plant food present or the amount of each of the important elements. The law requires the analysis to be printed along with the name, brand or trademark, but oftentimes this is not noticed until after the fertilizer is purchased.

Knowing the analysis of fertilizer used, will go a long way toward creating a more favorable attitude toward the use of fertilizer, but it is just as important to know the kind of use under the different systems of farming, and the different types of soil.

A complete fertilizer is one carrying nitrogen, phosphoric acid and potash. These constituents may vary, but as long as the fertilizer contains all three it is a complete fertilizer. Any fertilizer which has only one or two of these constituents is not a complete fertilizer. Acid phosphate, sodium nitrate, ammonium sulphate and muriate of potash, etc., are not complete fertilizers and should not be used as such. They carry only phosphoric acid, nitrogen and potash respectively. Much unfavorable attitude has occurred among farmers because some of these fertilizers which carry only one ingredient have failed as a "Cure All" for their crops.

In using fertilizers the farmer should consider the soil on which the crop is grown and the plant food requirements of the crop. In general the use of phosphoric acid is profitable on all soils and on all crops. This cannot be said of the fertilizing constituents, nitrogen and potash. However, if acid phosphate is used alone on some of the sandy soils, the results will not be as profitable as it would be if some nitrogen were also used. The results from potash are variable but its use is highly recommended for leguminous crops, particularly alfalfa and sweet clover.

On the silt loam and clay loam soils the main requirement is phosphoric acid. Potash gives some response to sugar beets and beans, but on these crops it is often used in excessive amounts. Nitrogen is seldom needed where the farms are badly run, and green manures are not used in the rotation. Occasionally, where the soil is poorly drained or of a lighter phase, top dressings of nitrate of soda or sulphate of ammonia, have shown very noticeable effects. These effects are not the same year after year, but will be dependent largely on the spring weather. If the spring is cold so that the nitrifying bacteria are not working to their maximum, then applications of an available form of nitrogen should be made.

Nitrogen is the highest in cost of any single element in commercial plant food and for that reason should only be used when necessary. Fortunately, manures and legumes can be substituted as the source of nitrogen. It is impossible to supply enough nitrogen through the use of farm manures except where large amounts of highly concentrated feeds are purchased, and then only when good care is taken of the manure to prevent leaching and loss of ammonia through fermentation. With the use of lime and inoculation, however, alfalfa and sweet clover can be grown on most soils, and therein lies the key to the nitrogen maintenance. However, this clover should be grown in the rotation and some turned under. With the use of these legumes and the manure produced, the nitrogen balance should be fairly well maintained. On the sandy soils a top-dressing of nitrates in the spring is advisable in addition to the above treatment.

Where legumes and manure are not used it will be necessary to apply nitrogen each year. This nitrogen should not be applied in the fall in large amounts. In the case of spring crops it should be put on just before planting. On wheat or rye about twenty per cent. of the application of nitrogen should be in the fall and eighty per cent. in the spring when the plant begins to grow. On the heavier soils that are badly run down and no legumes, nor little, if any, manure available, it is sometimes profitable to use applications of nitrogen. Legumes can usually be grown on the heavier types of soil without liming. Legumes and manure should take the place of commercial nitrogen on these farms. There is usually a large amount of organic matter turned under on these soils, part of which is converted into nitrogen.

On the lighter soils the 0-14-4 or 0-12-2 are to be preferred to the acid phosphate for alfalfa or clover seedings. If the soils are very sandy and just limed, two to three per cent. of nitrogen will help the seedings.

As a general rule, applications of potash have not shown profitable returns for general crops on any but the lighter types of sands and sandy loams. Here applications of from two to four per cent. of potash has produced good increases in some of the small grains.

The use of high analysis fertilizer is an important consideration for the farmer. A high analysis fertilizer is one where the percentage of nitrogen, phosphoric acid and potash totals fourteen or more. In buying a high analysis fertilizer more of the farmer's dollar actually pays for the plant food. The cost of mixing, selling and general overhead expenses is the same per ton of low grade as high grade. With a 1-8-1 selling for \$29 per ton, \$11.50, or thirty-nine per cent. actually pays for the plant food, while sixty-one per cent. is used to pay other necessary costs. Contrast this with a 2-16-2, just twice the strength. The price of a 2-16-2 is say, \$40.50; \$23, or fifty-seven per cent. is used to pay for actual plant food. We have, then, a difference of eighteen per cent. in favor of the 2-16-2. On the other hand, the cost of handling by the farmer will be lessened. He can use just half as much 2-16-2 as 1-8-1 and the cost on the market is only thirty-nine per cent. more per ton.

It should be evident from the foregoing figures that it is cheaper to use high analysis than low analysis fertilizers. Where the difference in plant food is not so marked, the difference in saving, of course, will be less, but the higher the analysis of fertilizer the greater per cent. of the farmer's dollar that will pay for plant food. The general trend of fertilizer practices is toward high analysis goods. Using the high analysis material does not mean that the right analysis is being used, but it does go a long way in following good fertilizer practices.

The efficiency of fertilizers is dependent largely on the soil reaction. Oftentimes it is necessary to apply lime first and if the soil is strongly acid, lime should be the first consideration.

In using fertilizers it should be kept in mind that they will not overcome seasonal or climatic conditions, but when used with good judgment and other good farm practices, they will prove profitable on most Ontario farms.

Poultry
Hens will molt. It is a scheme of nature that they shall rest from the strain of egg production, build up their body weight which has decreased, renew the yellow pigment in their bodies through the addition of fat, during which time they grow a new coat of feathers.

Though the length of the molt is primarily an inherited trait in that poor producers molt slowly and heavy producers molt rapidly, nevertheless the molt in any hen can be materially speeded up by providing a few essential requirements.

First of all, molting hens should have an abundance of green feed. Trying to molt out a bunch of hens on a dry bare yard is nothing short of suicidal to the health and immediate productivity of the hens so treated.

Give them a good big range covered with green grass, and above all things have it adequately provided with shade. Increase the grain ration quite materially to molting hens, thereby enabling them to build up their body weight more quickly. Put into the laying mash which you would normally feed them increased quantities of corn meal and Old Process oil meal. A good molting ration is one composed of three parts of cracked corn and one part of wheat as a scratch feed, and a dry mash composed of 100 pounds of wheat bran, 100 pounds of wheat middlings, 100 pounds of ground oats, 200 pounds of corn meal, 100 pounds of meat scrap and 50 pounds of Old Process oil meal. If one has access to a considerable supply of sunflower seeds, a few of them fed at intervals is an excellent practice.

These rations just enumerated are extremely rich in fat and oils which seem especially essential in encouraging a quick rapid growth of fine quality feathers. Anything which we can do to hasten the molt, and thus shorten the rest period, is an economically sound practice.

The Blackberry.
The blackberry, points out the Dominion Horticulturist, in his bulletin on Bush Fruits, is one of the easiest fruits to propagate. The suckers, which are produced in great numbers, may be used, or if it is wished to propagate a variety even more rapidly than by suckers, root cuttings can be planted. The roots, cut into pieces two or three inches long, may be taken either in the fall or in the spring and planted in nursery rows about three inches deep. After one season's growth, if the soil has been well cultivated, there will be good plants available.

As the blackberry ripens at a try-

Ways to Make Money on Fair Exhibits

BY DORIS W. McCRAY.

Last year I judged the women's exhibits at four county fairs. At one fair the interest seemed to centre on the bread, as several women asked how soon it would be judged, and by the time I came to it there was quite a crowd gathered. Each woman had her eye on one loaf which she thought best, and they watched eagerly as the general appearance, lightness, crumb, and flavor were scored. The little lady who won first had not said a word until the ribbons were pinned on, then she proudly announced the prize loaf was hers. Several women were anxious for her recipe.

"But the recipe is not all, that's the simplest part," she explained. "It is all in the way you handle the dough. Why, I even use a thermometer in the pan of water where I set my dough, to see that the yeast will not get chilled, and another thermometer in the oven. There is so much to know before you can make a perfect loaf!"

The jellies were the most interesting to judge, and since you cannot tell without opening them, I first dipped up a little with a knife to see the texture, for when there are many entries you can demand that the texture be perfect. A few glasses could be eliminated because they were cloudy, or tough, or syrupy; the others had to be scored carefully. The tasting never became tiresome, though one would think it a bit confusing to sample fifteen plum jellies. There seems to be some confusion as to the difference between conserves, as several glasses were entered in the wrong classes.

Mrs. Kenton went to her county fair prepared to win. In the long winter evenings she had been busy crocheting articles listed in the old premium list; these crocheted things were intended also as Christmas presents. As soon as the catalog came out she checked entries she intended to make. It was in August that she bought woolen material and made a school dress for her daughter, trimming it in red braid and carefully binding the seams. Of course it would win over some last winter's dress taken from the attic at the last moment. Not everyone would take the time to make a new dress to exhibit, but in that way her daughter had it ready to wear on the first cool day.

Mrs. Kenton started her canning when the first tender asparagus showed above the ground. Green peas, sweet corn, beans—in fact, everything from the garden was canned when at its best. The fruits and vegetables were graded as to size, perfection, and ripeness, as is customary in canning factories. That way the pieces in each jar were evenly cooked; there were especially good jars for exhibit and for company, while others were for everyday. For exhibit, all the jars were uniform, wide-mouthed, and of clear glass rather than of glass having a blue tinge.

Every week in the year Mrs. Kenton makes bread, cake, cookies, doughnuts, and pies, standardizing the recipes and striving toward perfection. It is a sort of a game she plays with herself trying to make the bread just right every single time, and lucky is the person who happens in for a meal on the day she has baked.

The night before she plans going to the fair she sets the alarm clock for an early hour. She kneads the bread, and while it rises she makes two cakes, and as soon as they come out of the oven she builds up the fire to get the oven good and hot for the pies which she has rolled out from dough mixed and kept cool from the day before. By the time the family is up ready for breakfast the bread is molded ready to go in the oven. She proceeds with the baking until everything is in readiness to take. She says this early rising is better than baking the

measure to most soils will be found desirable. If planted in the fall the later the better. Strong one-year suckers are the best to plant. As blackberries require plenty of space, the rows should be not less than eight feet apart and the plants not less than three feet apart in the rows. Where the blackberry grows vigorously, four feet apart is not too much.

Some men move through life as a band of music moves down the thoroughfare, flinging out melody and harmony through the air to everyone far and near who listens.—Henry Ward Beecher.

Women who win prizes in one department seem to win in other things too, and it does not seem to be just luck. Finding that Mrs. Gibney had won first in every kind of cake, I asked her for her secret of success.

She says she always measures exactly; she sifts the flour before measuring it, never thinks of dipping into the sack with any cup handy, but is careful to get the one measuring a half-pint.

"Then, too," Mrs. Gibney added, "a cake can just be ruined in the wrong kind of an oven. If it is too hot, the cake cracks; there is much to know about ovens."

Women who love to do fancywork have a good excuse for doing it when they can win prizes at the fair and still have the work left for themselves or to use as gifts for their friends.

One year I exhibited a white slip trimmed with Armenian lace sewed on by hand, which took the prize over one made much more elaborately of colored silk. When I asked the judge how it happened, she said the white nainsook, while it was dainty, could be boiled when laundered, hence was more sanitary. Judges consider practicality and wearing qualities as well as mere beauty. If you can get a good result with less time spent on the garment, so much the better, for the number of hours spent in its construction does not count when a garment is in competition with others.

At one fair there was only one class for the "best tatted article." There were many entries, and it was a mistake not having a prize offered for the best dresser scarf and for other distinctive tatted articles. The superintendent of the department called my attention to a camisole she admired, and the way she showed it to me I suspected that she was trying to get me to give it a prize. It barely missed receiving third prize, and she demanded the reason why. Her mother had made it, and the work was beautiful. Then I explained that the material of the camisole was cheap and unattractive, not good enough to combine with fine handwork, and that the pink ribbon was gaudy, spoiling the daintiness of the garment. She was surprised that these points were considered. Next year I expect to find the same joke entered again, but attached to a different camisole.

A gingham apron unusually good in style did not get a prize; someone wondered why, but one look at the inside of the garment with its unfinished seams was convincing. The seams would pull out, and the garment would not wear well with many launderings.

One farm woman said to me: "I have learned several things about sewing. I found I had finished some seams the wrong way, and have all sorts of ideas stored away in my mind about fancywork I am going to make. It is fun to exhibit, besides the pleasure of spending a cheque from the fair association. This year I am going to buy a pressure cooker. My premium money is just to be spent as I please."

Beulah Hatch, a twenty-year-old girl, exhibited canned fruit and vegetables at six neighboring fairs last year. While she had won prizes in the junior department, she had not mustered courage to compete with women twice her age. It was interesting to note that where she entered two jars of fruit one would take first and the other second prize. Where her mother had entered a jar, hers would receive second prize, and the blue ribbon would go to Beulah. The mother won \$75 in prizes and Beulah won \$150, with \$25 for her fancywork in addition. She is certain that it pays to exhibit at county fairs; but, like the woman said about ovens, "There is much to know about it."

The Sunday School Lesson

SEPTEMBER 14.

Jesus Driven From Nazareth, Luke 4: 16-30. Golden Text: He hath anointed me to preach the gospel.—Luke 4: 18.

ANALYSIS.
I. THE GREAT ANNOUNCEMENT OF JESUS, 16-22.
II. THE GREAT REFUSAL OF THE NAZARENES, 23-30.

INTRODUCTION.—It might have been expected that in Nazareth, where he had been brought up, the welcome given to Jesus on his first public appearance would have been specially warm; but the contrary proved true. To the Nazarenes, as the lesson shows, belongs the supreme ignominy of not only giving no hearing to Jesus, but of having alone, among the Galilean cities, willed and premeditated the Saviour's death.

I. THE GREAT ANNOUNCEMENT OF JESUS, 16-22.

V. 16. On the first Sabbath at Nazareth, Jesus attends the synagogue service. It was the custom at such services, there being no official ministrants, upon any teacher of religion who was present, to speak to the congregation, and this courtesy is here extended to Jesus, about whose recent work in other parts of the country, the Nazarenes have heard.

V. 17. Jesus, at the proper moment, stands up to read, and the attendant hands him a roll of the prophet Isaiah. The roll, written on parchment, would be wound on two rollers, which the reader holds in his two hands, and between them, on the uncoiled portion of the roll, is the passage which he wishes to read. It is not certain whether the passage which Jesus here "finds" was chosen by himself or was prescribed by the fixed system of "lessons" for the day. In the latter case, when the roll was handed to him, it would be open at the proper place. All the more remarkable is it that the passage to be read, supposing the lesson to be a fixed one, is one in which our Lord saw his own divine mission prefigured.

Vs. 18, 19. The passage in Isaiah predicts the anointing by Jehovah, of a prophet who should preach glad tidings of salvation to the poor, open the prison of captive souls, restore sight to the blind, free the oppressed, and announce the year of God's redeeming favor. The terms, "poor," "captive," "blind," "oppressed," are to be spiritually understood. We must think of those who in patient loyalty to God's truth, have suffered impoverishment and less, or who conscious of the burden of sin, are yearning for forgiveness. Such are God's "poor"—the term "poor" in the Old Testament, has a religious sense.—God is their interest and their capital, and they are waiting for God to set up his kingdom, and to bestow on them his blessing. No wealth, no freedom, no sight of the eyes, no wisdom, can compare with the heavenly treasure of knowledge, and walking in the light of his love. Here then we see how the Lord Jesus apprehended his mission to the nation of Israel.

Vs. 20-22. After the reading of the lesson, the roll is wound up and given back to the attendant. Jesus sits down,—the usual posture of the teacher,—and while every eye is fixed attentively on him in a breathless silence, he begins his sermon with the words: "This day is this scripture fulfilled in your ears." What followed is not recorded, but is left to our imagination. The Nazarenes are astonished at the words of grace which flow from the lips of Jesus, but inwardly him all the time by human standards, and saying, "Is not this Joseph's son?" They are unwilling or unable to realize that "the son of Joseph" may also be God's Son.

II. THE GREAT REFUSAL OF THE NAZARENES, 23-30.

Vs. 23, 24. The admiration, the astonishment, are momentary. The words of Jesus provoke the inward comment, "But what are the signs of his calling?" The Nazarenes see the common view, that the spirit of God announces itself only in the extraordinary and the miraculous. They cannot see that God's spirit is supremely revealed in holy thoughts and deeds, which produce the sense of God's presence. Jesus is at once aware of this negative attitude, and this disposition to say, "Physician, heal thyself," and he recalls to his hearers the reception which Elijah and Elisha formerly met with among their own people.

Vs. 25-27. No prophet is accepted in his own country. When Elijah was fleeing from persecution, there was no home in Israel to which God could safely send him, and he was directed accordingly to the heathen Sidon. When Elisha was in Israel, the only leper cleansed was a heathen Syrian, named Naaman. Naaman alone had faith in God's word, spoken through the prophet Elisha, and came to God from idols. God's messengers, the prophets, found no faith among their own people, but had to turn to the Gentiles.

Vs. 28-30. This prediction that God will look past the Nazarenes in sending the word of his salvation is regarded as unpardonable, and the Nazarenes at that moment would have brought on themselves the guilt of murder. Jesus, however, protected as by unseen hands, passes unharmed through their midst. They are awed by something in his bearing, and suffer him to go, never to return again. Till Jesus' work is done, no evil can befall him. He passes serene and calm through all dangers, because God is with him.

ENMITY.
The Jews and their kinsfolk, the Arabs, have always been eager persecutors of any "new way" in religion. Many marks of that spirit are left in the Gospel records.

When Mohammed, permitted no longer to speak within the city of Mecca, preached repentance and judgment to the crowds gathered at fair-time, his steps were dogged by Abu Lahab, his uncle, who made sport of the eager prophet. When the persecution became intolerable, the prophet turned on him with a fierce curse, which, finding a place in the Koran, holds Abu Lahab up to execration, as the Gospels brand Judas.

When the religion of Mohammed got the upper hand, it was just as intolerant as its persecutors had been. "Throughout the land there shall be no second creed," was the prophet's boast on his death bed. And the early Moslems went forth in a religious frenzy offering to all, "Islam, exile, or the sword!" To Abu Bekr, the mildest of the prophet's successors, even Moslems complained of "The Sword of Allah." "The sword of Khalid," they said, "dipped in violence and outrage, must be sheathed." "Nay," replied Abu Bekr, "the sword which the Lord hath made bare against the unbelievers, shall I sheathe the same? That be far from me."

Better Fruit Shows.

We are just entering the fruit-show season, and from now on until December, one is likely to encounter them anywhere.

They are always interesting to the fruit enthusiast, and usually to the general public, and have certainly had an important influence in molding and developing our fruit industry; but one sometimes wishes that they might be managed differently in some respects. The two main objects in a fruit show ought to be, first, to educate the producer, enabling him to grow better fruit and prepare it better for market; and second, to interest the consumer in fruit as an article of diet, convincing him of its value and educating him as to ways in which it may be used.

It is seldom that one finds either of these objects very fully carried out in a fruit show.

In the writer's experience and observation, the following are some of the most common ways in which the average fruit show falls down:

The exhibits are not sufficiently well labeled. The visitor wanders past the show of apple varieties with nothing to tell him whether the big red apples which arouse his enthusiasm and interest are Wolf River, Spitzenburg or Wealthy. He doesn't know what the collections of varieties are intended to illustrate, and there is nothing whatever to tell him what the exhibitors are trying to show in the package exhibit.

There is not enough prominence given to fruit packages and packed exhibits. These exhibits are valuable to both the grower and the consumer if properly handled and labeled, and they ought to be in every show of any size.

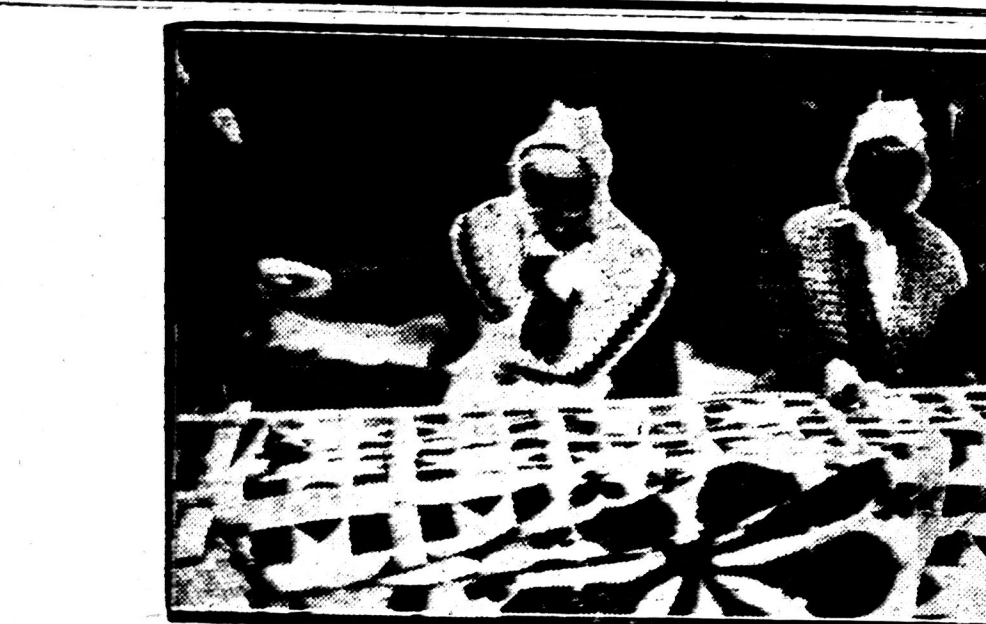
There ought to be an exhibit of cooked fruit in every fruit show. Let people know that there are other ways in which the apple may be used besides in pies.

The exhibit of varieties of fruits on plates ought to be changed. More prominence should be given to collections of commercial varieties. A prize offered for the best collection of five commercial varieties of apples has real value for anyone in doubt as to what he ought to plant.

In many sections prizes for advertising exhibits may be made a valuable feature. If growers are selling either at their farms or through local groceries, the exhibit may be one suitable for a store window or a roadside stand, and the competition may be among the growers themselves, and many valuable suggestions may be passed on to less ingenious people.

Or, if the fruit show is in a city the prizes may be offered to the stores which put on the best advertising displays. In this latter case we not only get the advantage of passing on to others good ideas in advertising, but we get the advertising value of the exhibits themselves.

Doubtless many other improvements might be made, but if the above could be injected into our fruit shows it ought to put most of them on a more useful plane than they now occupy.



The preservation of the old household arts is one of the things which was featured at the recent Royal Dublin horse show at Ballsbridge. The Irish peasant women are working on a big patch quilt.

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