

GRAIN SAMPLING DEVICE IS MADE

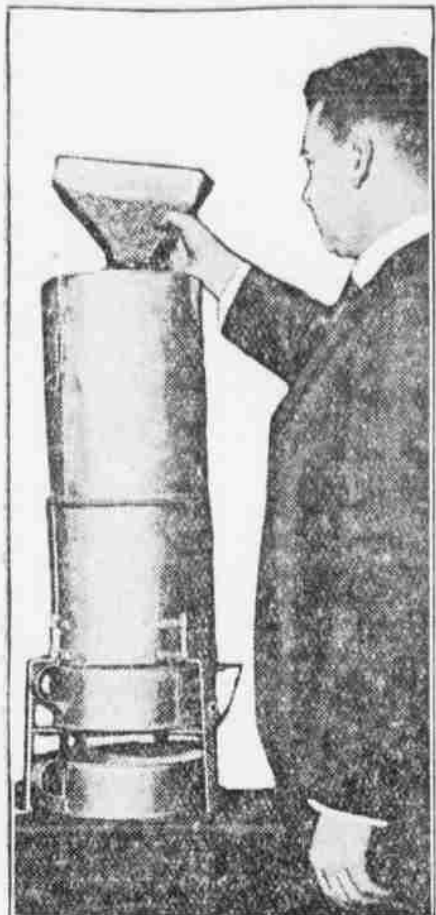
Anyone in United States May
Make and Use It Without
Payment of Royalty.

QUITE EASILY CONSTRUCTED

Sample of Grain Is Evenly Divided
and One-Half Is as Representative
of Whole Original Sample
as the Other.

A device with which a sample of grain, to be used in grading a given lot, can be evenly divided so that one-half will be as representative as the whole original sample, has been designed and patented by the United States department of agriculture, and anyone in the United States is free to make and use it without the payment of a royalty.

A representative sample of a given lot or shipment of grain which is secured by means of a probe, usually has to be divided into smaller portions for one or more of the tests to be applied in determining its grade. Haphazard reduction of the size of the sample has been found wholly unreliable, and consequently the device shown in the accompanying photographs, known as a Modified Boerner Sampler, has recently been put out by the bureau of markets of the United States department of agriculture. It is similar in principle to a sampler designed by the bureau a year or two ago, but is so designed that it can easily be constructed of block tin or brass by any tin-smith at about one-third the cost of the original.



Pouring a Sample of Grain Into a
"Modified Boerner Sampler."

The sampler is cylindrical and stands about thirty inches. The sample to be halved is poured into a hopper at the top, which is emptied by pulling a lever that removes a cap over the lower end of the hopper. As the grain flows downward it strikes the apex of a baffle, in the form of a cone.

Working of Device.

The sampler is cylindrical and stands about thirty inches. The sample to be halved is poured into a hopper at the top, which is emptied by pulling a lever that removes a cap over the lower end of the hopper. As the grain flows downward it strikes the apex of a baffle, in the form of a cone.

Encircling the base of this cone are a series of small chutes whose distance apart is exactly the width of these openings. Half of the grain flows in these chutes, and half between them. The latter portion flows directly into the uppermost of two pans placed one above the other at the base of the sampler. The half falling into the chutes is diverted into the center of the upper pan, thereby permitting this half of the grain to flow into the lower pan. In this fashion the original sample is evenly divided into two parts, one of which is certain to be as representative of the original lot as is the other.

Standard Equipment.

One of the duties of the bureau of markets, United States department of agriculture, is to administer the United States grain standards act, and because it desires to make standard equipment for grain grading easily obtainable by all dealers, country as well as city, the bureau has devised this comparatively inexpensive apparatus to take the place of the more expensive Boerner sampling device. The sampler and a few other pieces of apparatus are all that are required for grading grain, according to practice recommended by the United States department of agriculture.

DEEP PULVERIZING OF SOIL

Plants Will Not Thrive If Soil Is
Coarse and Lumpy Just Below
the Surface.

Few gardeners realize the importance of pulverizing the soil as deeply as it is plowed. No matter how perfectly the surface is prepared, if the soil is coarse and lumpy below the plants will not thrive. Large air spaces in the soil are a detriment, but a large number of very small air spaces in the soil are a benefit.

FARMERS ORGANIZED FOR SELLING STOCK

One Example of Help Given by
County Agent.

Farm Bureau Marketing Association
Formed in California to Dispose
of Hogs—System Applicable
to Other Products.

(Prepared by the United States Department of Agriculture.)

Selling live stock by auction, a plan started in Kern county, California, in 1917, has now spread through a considerable area of the interior of the state, especially where large numbers of hogs are grown. Last year seven counties—Kern, Kings, Merced, Madera, Stanislaus, Tulare and Fresno—formed the California Farm Bureau Marketing association and joined in conducting auction sales. This association employed a manager and assistant manager who were responsible for the success of the sales. In addition, each county farm bureau has a committee in charge of the sales locally. Auction sales were also held in San Joaquin and Shasta counties. It is expected that this system will expand throughout the state during the coming year and that it will prove applicable to other products which are capable of standardization.

The business last year included 183 auction sales at which 543 carloads of live stock were sold for \$1,790,330.79. It is estimated that the sales brought a direct increased return to the farmers of \$108,946.97 over the prices the stock would have brought otherwise.

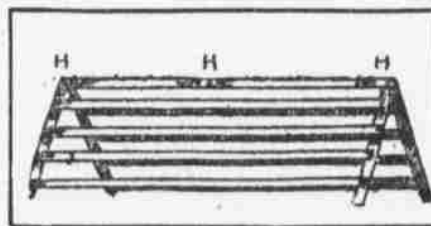
This is but one example of the help given by the county agent in organizing farmers for selling live stock. One hundred and three county agents in 19 states report this service as an important feature of the work last year. Furthermore, 133 county agents in 14 states report that they assisted in organizing live-stock shipping associations in their counties.

TOMATO TRELLIS IS USEFUL

Nothing Better Than Hinged Arrangement
Shown in Illustration—
Is Easily Made.

The following description of a support for tomato vines is taken from Suburban Life. For supporting tomato plants, in the small suburban garden, there is nothing better than the hinged tomato trellis—a tent-shaped structure, easily made at home. Take four wooden strips, 2 by 1 inch and about four feet long. Place each pair of them together, at one end, and hinge them with two strips ten feet long. These two long strips form the ridge-pole of the trellis, so to speak. Nail several other ten-foot strips across each side of the tent-like structure and the trellis is completed.

The hinged top of the trellis, as shown on the diagram and marked H, permits it to be spread the exact width of the row, or it may be spread



Tomato Trellis.

widely so that the plants in two rows may be supported. When not in use, the trellis may be closed up and kept with the garden tools.

ESSENTIALS TO GARDEN SITE

Certain Amount of Sunlight, Fairly
Fertile Soil and Cool Drainage—
Other Points.

There are three essentials to the garden site, experience has shown. They are:

Sunlight at least six hours a day; a soil sufficiently fertile for weeds to grow upon it; sufficient drainage, either natural or artificial, to prevent flooding or excessive moisture.

If a site is notably deficient in any of these three essential characteristics, it is not suited for garden purposes unless the fault can be corrected.

If one is fortunate enough to be able to choose among several possible locations, the New York state college at Ithaca suggests it may be well to consider the following points.

Nearness to the house for convenience in working the garden and in gathering the products and, in the case of a town garden, for protection against trespass and theft.

A water supply to insure against drought.

A gentle south or southeast slope.

A windbreak to the north.

A good, rich loam, that is, a mixture of sand and clay with plenty of humus or decomposed plant material. Fertility and abundant humus are generally indicated by a dark color of the soil.

MILKWEED SHOOTS ARE GOOD

Cut Just as They Come Through
Ground They Are Crisp and Tender
—Make Excellent Dish.

It may not be known to many farmers that the young milkweed shoots are edible, that when cut just as they come through the ground while still white, crisp and tender and cooked like asparagus, they make an excellent dish.



ROAD BUILDING

WAR MATERIAL DISTRIBUTED
Equipment Turned Over Promises to
Be Great Aid in Carrying Out
Road Building Plan.

To date the war department has turned over to the United States department of agriculture approximately 24,000 motor vehicles, as provided in congressional legislation empowering the latter department to distribute this war material among the state highway commissioners for use in road building, allotments of the vehicles to be based on the amount of federal aid for roads which the states receive. This is practically all the vehicles which the war department has to release. Of this total 12,000 have been delivered to the states. The remainder will be distributed as fast as railway cars can be secured for their transportation. Representatives of the bureau of public roads, in charge of the matter, believe that within two or three months all of the vehicles will have been delivered to the states. This equipment promises to be a great aid in carrying the large road building program for 1920.

The state highway commissioners are also interested in securing allotments of tractors, steam shovels, locomotive cranes, automotive cranes, industrial railway track, dump cars and industrial locomotives which remain to be disposed of by the war department. A measure known as the Kahn bill, directing the secretary of war to release this material for the state highway commissioners, has passed the senate and has been reported out of committee in the house.



Type of Motortruck Turned Over to
States to Aid in Road Building.

Until the secretary of war has been directed by congress to turn out this equipment it is not likely that it will be available for state distribution.

MAKING ROADS WITH BRAINS

Most of Heavy Work Incident to Highways Is Being Done by Machinery—Cost Is Less.

As help is scarce, and increasing traffic makes good roads a necessity, more and more of the heavy work incident to highways is being done by machinery.

At one time the work of leveling and road building had to be done largely with the pickaxe in the hands of workmen, and with shovels and teams. Now gasoline engines, motor trucks, and huge power-propelled cranes do all of the heavy work. In the new method the expense is less than by the old method, for machinery is always cheaper than human labor, in that a material saving of time is effected.

Good roads are an economy to any section of the country, as they permit produce to be hauled to market just when it will bring the most, and property is always worth more which borders well-constructed highways. Try to buy a farm along a concrete road and you will find the location makes a big difference in the price asked.

REDUCE COST OF MARKETING

It Can Be Brought About by Farmers
Using More Trucks, Trailers
and Automobiles.

The high cost of marketing that is such a factor in the cost of living will be reduced when the roads are improved and farmers use more trucks, trailers and automobiles in reaching city markets with their products.

UNPAVED ROADS UNCERTAIN

When Weather Is Good They May Be
Passable If They Have Been
Continuously Dragged.

Unpaved roads vary with the weather—paved roads are constant. When the weather is good, dirt roads may be passable if they have been continuously dragged, but they are not roads for truck and automobile traffic, so characteristic of the highways today when properly constructed.

FARM POULTRY

DEMAND FOR GUINEA FOWLS

Value as Substitute for Game Birds
Becoming Better Recognized
by Many People.

The value of a guinea fowl as a substitute for game birds such as grouse, partridge, quail, and pheasant, is becoming more and more recognized by people fond of this class of meat, and the demand for these fowls is



Prime Young Guineas Are a Special
Delicacy.

Increasing steadily. United States department of agriculture specialists report. Many hotels and restaurants in the large cities are eager to secure prime young guineas, and often they are served at banquets and club dinners as a special delicacy. When well cooked, guineas are attractive in appearance, although darker than common fowls, and the flesh of young birds is tender and of especially fine flavor, resembling that of wild game. Like all other fowl, old guineas are likely to be tough and rather dry.

A few large poultry raisers, particularly those within easy reach of the large eastern markets, make a practice of raising a hundred or so guineas each year, but the great majority of guineas are raised in small flocks of from 10 to 25 upon farms in the Middle West and in the South. Many farmers keep a pair or a trio of guineas more as a novelty than for profit, and from these a small flock is raised. The guinea fowl doubtless would be more popular on farms were it not for its harsh and at times seemingly never-ending cry. However, some people consider this cry an argument in the guinea's favor, as it gives warning of marauders in the poultry yard.

CARE OF GROWING CHICKENS

One of Most Important Factors in
Raising Poultry During Summer
—Keep Them Growing.

The care of growing chicks during the summer is one of the most important factors in poultry raising. The chicks may be hatched from strong, vigorous stock and carefully brooded; but unless they receive the proper attention during the warm months, their growth may be retarded. In other words, they should be so managed that they will mature into well developed fowls.

KEEP BIRDS FREE FROM LICE

Dust Thoroughly With Good Insect
Powder or Apply Mixture of
Vaseline and Mercury.

Examine the pullets and hens for lice, and dust thoroughly with a good insect powder or apply a mixture of two parts of vaseline and one part of mercurial or blue ointment, about the size of a pea, one inch below the vent of the bird, rubbing the mixture lightly on the skin. An application of this ointment two or three times a year will keep the fowls free from lice.



POULTRY NOTES

Destroy lice and mites.

Confine or sell all cockbirds.

Keep the nests clean and well littered.

Gather eggs frequently and keep them in a cool place.

Breed and milk make an excellent feed for young goslings.

Feed a well-balanced ration with plenty of variety and if possible give free range.

Eggs to be preserved should be strictly fresh, clean, unwashed, firm and free from cracks.

From 50 to 80 per cent of the chicks hatched die before they reach maturity. This loss can be greatly reduced by proper feeding and care.

The number of duck farms in this country is increasing, because of a widening of the market for young ducks, and this sort of poultry raising is growing more popular.



DAIRY NOTES

STOCK THRIVE ON ROUGHAGE

Feeding Value of Silage, Fodder and
Stover in Dairy Ration Not
Fully Appreciated.

The feeding value of corn silage, corn fodder and corn stover in the dairy ration is not sufficiently appreciated, especially in those regions where legumes do not thrive, says a specialist of the dairy division, United States department of agriculture. A recent study of records from cow-testing associations points to the conclusion that the growing of more corn roughage and less non-leguminous hay would increase the profitability of the ration.

In all sections where legumes thrive it is, of course, advisable to grow them, as their value is well recognized for feeding dairy cattle. In fact, from a study of cow-testing association reports it would seem that even grain does not fully take the place of good legume roughage. It is in these sections where legumes do not thrive, however, that dairymen may well consider the growing of more corn roughage and less non-legume hay.

Few plants apparently contain all the substances required to nourish properly the animal body, but in the light of present knowledge, the corn plant seems to be one of these. It is possible to balance a ration from corn products only that will enable the animals to thrive and reproduce with apparently no ill effects. This is



Filling Silo With Corn—More Corn
Silage or Other Corn Roughage Is
Needed, Especially in Regions
Where Legumes Do Not Thrive.

not the case with many other crops. Corn, then, has unusual feeding properties.

Experimental work done at the South Carolina and Pennsylvania stations has shown that it is practical under some conditions to feed dairy cows on a ration of corn silage and grain without hay. Such a ration has been used successfully in feeding beef steers. Reports from one cow-testing association in a non-leguminous hay region having an unusually high income over cost of feed and large production per cow is in a district where the dairymen have practically discontinued the feeding of hay, but instead feed silage and corn fodder. In this association the grain ration is also composed largely of corn by-products.

No matter what other conclusions may be drawn from the evidence available showing the value of corn fodder and corn silage as dairy feeds, it seems certain that the corn plant provides an excellent roughage.

Hay is often damaged very much by becoming overripe. Storms damage it seriously. The feeding value of corn is not damaged by its becoming mature, and if it is properly shocked storms do little damage to it.

There are undoubtedly many dairymen who can well consider the wisdom of reducing the amount of non-leguminous feed, corn fodder, and silage to feed their dairy cows.



DAIRY NOTES

Feed the cows well.

The sooner the utensils that have contained milk or been in contact with it are washed the easier the job will be.

Grass, hay, fodder, and other roughage which may not have a ready sale are economically utilized by the dairy cow.

Contagious abortion can be prevented by the use of an antiseptic solution used on the sire after each service.

Through the dairy cow many unsalable roughages may be transformed into products from which cash may be realized.

A bar of vaseline is almost a necessity around the dairy barn, especially on very cold days when chapped and cracked teats are common.



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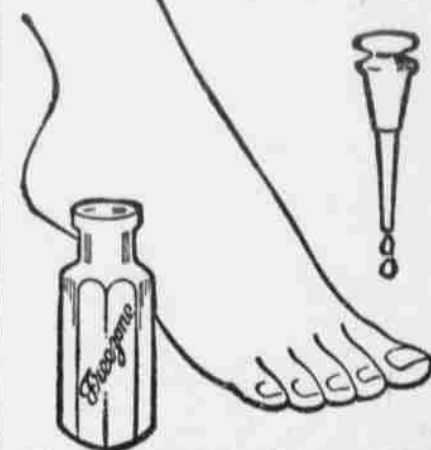
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