

PRODUCTION OF THYMOL FROM HORSEMINT



Bed of Horsemint Grown for Seed.

(Prepared by the United States Department of Agriculture.)

The production of thymol from horsemint may be, under favorable circumstances, a profitable commercial undertaking, according to a recent publication of the United States department of agriculture, Bulletin 372. Thymol, which is extensively used in medicine, was formerly imported from northern Europe where it is manufactured from seed grown in northern India. The European war, however, has reduced the importations of this substance from 18,000 pounds in 1914 to a little more than 2,000 in 1915. To make up this deficit it is believed that thymol might be manufactured from improved horsemint plants with which the department of agriculture has been experimenting for some time.

Horsemint is found wild on light sandy soils over the entire region from southern New York to Florida, and westward to Wisconsin, Kansas and Texas, and it is probable that it will thrive under cultivation over the same area. From 20 to 30 pounds of oil per acre should be obtained from a planting, according to the investigations of the department, and a little less than 70 per cent of this oil will be thymol. The yield of thymol per acre of horsemint, therefore, is estimated at from a little less than 13

pounds from first year plantings to a little less than 20 pounds for subsequent years. The average price of thymol for a number of years prior to the European war was about \$2 a pound.

The cost of producing the thymol will depend to a great measure upon whether the horsemint is grown in connection with other oil-yielding plants for which a distilling apparatus is maintained. Unless this is done, it is said, it is not probable that the profits will be sufficient to warrant anyone engaging in the industry. Excluding such items as land rent, taxes, depreciation, upkeep and interest on the distilling plant, it is estimated that thymol can be produced at an approximate cost of \$23 per acre the first year, and \$19 per acre thereafter. These figures include the growing of the plants, fertilization, cultivation, harvesting and distilling. A plantation of horsemint will not have to be replanted oftener than once in five years at the most, and by returning the distilled herb to the soil, a material reduction in cost of fertilization can be made after the first year.

Fuller information in regard to methods of cultivation, harvesting and distilling are contained in Bulletin 372 which has already been mentioned.

EXPERIMENT NOW AND THEN

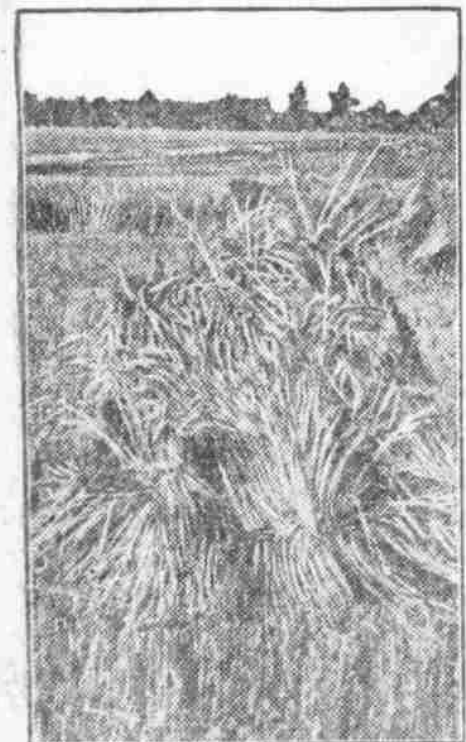
New Crops and Methods Should Be Given Thorough Trial—Try a Little of Anything New.

(By BREEZE BOYACK, Colorado Agricultural College, Fort Collins, Colo.)

Why not try a new variety of your main crop? Do not wait for someone to do your experimenting for you. The successful business man is the one who is first in the field. He tries out carefully, new methods or new products. The successful farmer is first in his field.

If you have never raised a forage crop, try one. If you are growing defiance spring wheat why not try a macaroni wheat? Perhaps another common variety such as Marquis or Red Fife would do well.

Of course, if your community has settled upon a variety as a commu-



Wheat Field in Colorado.

nity enterprise, as is done with peas, potatoes, apples, alfalfa, etc., it is not wise to depart from it.

Always try just a little of anything new—a quarter acre, a half acre, or even an acre. Give it just average ground—it is better right alongside the standard crop. Don't baby it. Make it prove its worth, if it has any.

The pleasure of trying out for oneself the value of a crop is the best return. Do not make your whole farm an experiment farm or you will surely fail. But a little experiment now and then is rewarded by successful men.

Proper Feed for Pigs.

Feed the pig all he can eat without sweating. This can be done only by watching him eat and knowing just how much he needs.

LONG LIFE OF FENCE POSTS

Osage Orange Leads With Thirty Years—Cement Will Last Forty-eight Years.

The average life of fence posts from the following kinds of woods is: Osage orange, 30 years; locust, 23½; red cedar, 20½; mulberry, 17½; catalpa, 15½; burr oak, 15-1-3; chestnut, 14½; white cedar, 14-1-3; walnut, 11½; white oak, 11½; pine, 11½; tamarack, 10½; cherry, 10-1-3; hemlock, 9; sassafras, 8-9; elm, 8½; ash, 8½; red oak, 7; willow, 6½. The number of years that a fence post will last should be considered in the price paid for it. Oftentimes for a few cents additional a much longer-lived post can be secured, making it much cheaper in the long run.

If the bark is left on a fence post, it will rot much faster than if it is removed.

It is estimated that the average life of a cement post is 48 years and of a steel post 30 years.

ENEMIES OF ALFALFA PLANT

Not Worth While for Farmer to Waste Expensive Seed on Sour or Alkaline Soils.

Sour soil and alkali are enemies of alfalfa. Most sour soils are sandy soils where the drainage is too good and the lime has been leached out. They can be sweetened by adding ground limestone where this process is not too expensive and leaching lessened by incorporating plenty of humus in the soil. This can be done by applying stable manure or plowing under green manure in the form of growing crops, etc.

Alkali soils usually are badly drained and can be corrected by supplying this factor. It is not worth while to waste alfalfa seed on sour or alkaline soils. If they cannot be corrected, raise some other crop.

ALFALFA AND WHITE GRUBS

Excellent Crop to Alternate With Corn as it Clears Soil of Aphids and Other Insects.

It is claimed that the corn-root aphid, white grubs and other insects which caused so much damage to the corn, will not feed upon alfalfa roots. For this reason alfalfa is considered a very excellent crop to alternate with corn, as it clears the land of corn enemies.

Improvement Possible.

Any man who will read and work can double his milk and butter yield if it is below 150 pounds of butterfat a year, and it is possible for him to do it in a surprisingly short time.

The DAIRY

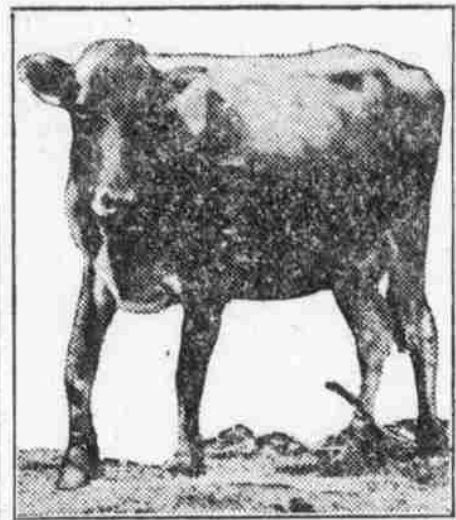


UDDER DEVELOPMENT OF COW

Sufficient Importance Not Placed on Dairy Characteristics by Dairy Cattle Owners.

Many owners of dairy cattle do not place sufficient importance on the purely dairy characteristics of the animals they keep and breed. One of the points often overlooked is udder development, although it would seem that this would be the first thing an intelligent dairyman would look for in the selection of a cow. While an occasional cow with a small, ill-shaped udder will give a good quantity of milk, such animals are merely the exceptions which prove the rule that good dairy cows should show good development of the milk organs.

The good udder is large but does not display its size by hanging in a



Fine Type of Dairy Cow.

low inverted conical shape. Such an udder does not add to the beauty and symmetry of the animal and too often its dangling, swaying motion in travel is a source of irritation. It cannot possibly be expected to give as good results as a blocky compact udder of equal size in each quarter and extending well to the front and rear. The teats should be of sufficient size to be grasped firmly while milking. They should be set squarely on the quarter and be of cylindrical rather than conical shape. The cow with a low hanging bag and conical-shaped teats is not a choice animal to milk and it will usually be found that she does not do well at the pail.

Parentage has much to do with the conformity of the cow's udder, and while the sire will influence this characteristic to a certain extent the function of the udder is not after his nature and the dam will have to be depended upon largely to perpetuate proper form in this regard. Practical experience will prove that a heifer calf will ordinarily have in a marked degree the external milk organ characteristics of her dam. It is therefore doubly desirable that in the selection of breeding stock close attention be paid to the udder development.

VARIETY OF FEEDS FOR CALF

When Animal is Four Weeks Old It Can Get Along Without Milk—Gruel Answers Purpose.

After a calf is four weeks old it can get along very well on little or no milk if you are short. Make a gruel out of a variety of feeds, say cornmeal, oil meal, middlings, bran, ground oats; mix them all together and cook a kettle of it, having about the consistency of gruel. At first feed a pint of this in three quarts of warm water, increase to a quart of the gruel.

In addition, give the calf clover hay and ensilage if you have it; in fact, any roughage you happen to have. Also begin to feed it cornmeal and ground oats as soon as it will eat.

SUMMER WORK IN THE DAIRY

Nothing More Unpleasant Than When Pastures are Short and the Flies are Troublesome.

At no time of the year is dairying more unpleasant work than during the time when pastures are short and the flies are troublesome.

Now is the time when it pays to have supplemental forage crops and to darken the stables and keep the cows inside during the hottest part of the day. The cold weather during the winter is less difficult to contend with than the hot sun and flies during the summer.

COWS REQUIRE MUCH WATER

Animals Should Have Access to Supply at Least Twice Daily—Well Water is Best.

Milking cows require a much larger quantity of water than is necessary for growing animals. They should have access to a good clean water supply at least twice a day. The best supply is well water pumped into a tank or trough, falling this a running stream is best.

TURKEYS ARE MOST VALUABLE SIDE LINE



Feeding Time on a Western Turkey Ranch.

A more profitable sideline than turkeys for the farmer can hardly be found for those who are favorably situated for raising them, according to W. A. Lippincott, professor of poultry husbandry in the Kansas state agricultural college.

"Improper feeding, combined with close confinement, has been the cause of many failures in turkey raising," says Professor Lippincott. "Given free range on the average farm, the poults can generally pick up their own living. One light feed a day for the purpose of inducing them to come in at night is sufficient.

"If the mother hen is confined to a coop and the poults are allowed to run in and out, three times a day is often enough to feed and very little should be given at a time. The poults should always be ready to eat—if they are given all they will eat several times a day, indigestion will result. If there is little or no food outside the coop for the poults to pick up, they should be fed five times a day, only a small quantity at a time.

"A good feed for the first few days after the brood is hatched is stale bread soaked in milk and then squeezed dry. Corn-bread crumbs and clabbered milk or cottage cheese is often fed with excellent results. Green feed and grit should be on hand at all times. As poults grow older, the ration should gradually be changed to grain."

Freedom is the main essential in the care of the adults, says Professor Lippincott. With plenty of range where the turkeys can find insects, green vegetation, the seeds of weeds and grasses, and waste grain, the cost of raising them is small while the profits are large.

Grain and stock farms in the western part of the state are particularly well adapted to turkey raising, and especially is this noticeable in grass-

hopper years. Raising turkeys in confinement is generally unsuccessful, and where it has been tried the results have been discouraging. Plenty of range is essential in turkey raising.

Turkey hens often steal their nests in hidden places. To find these nests proves a long and tedious task. An easy method of finding the nests is to confine the hens early some morning after they have come down from roost and let them out late in the afternoon. Those that are laying will then head for their nests.

Fifteen turkey hens can be mated to a vigorous tom, in the opinion of



The Great American Birds.

Professor Lippincott. If 25 or 30 hens are kept, two cocks should not be allowed to run with them at the same time, but one should be confined one day, and the other the next. When two toms are allowed to run together during the mating season, they fight and the stronger does practically all the mating.

NEST SATISFACTORY TO HEN

To Obtain Best Results It Should Be Flattened and Shallow to Permit Turning Eggs.

Next time you find a nest of eggs which a hen has stolen away, take a lesson in the proper architecture of such a structure. It may save a few broken eggs or a poor hatch the next time you proceed to set a hen in your own clumsy, human fashion.

The keynote of the stolen nest is its flattened, shallow design. This is the way nature has demanded it should be constructed to give the best results. How different from the deep, hollowed-out contraption into which so many people pile the eggs they expect Biddy to transform into downy chicks.

A nest to prove satisfactory should be shallow enough to permit a hen to turn her eggs properly. It should be flat enough to permit the newly hatched chicks to lie where they are when released from the shell instead of sliding down into the bottom and having the eggs roll on top of them.

IDEAL QUARTERS FOR MITES

For Rapid and Profitable Gains Poultry Should Be Kept Comfortable and Cheerful.

Filth should never be allowed to accumulate, because it makes ideal quarters for lice and mites. All drinking pans and feeding pans should be thoroughly cleaned each day, and the soil in the poultry yard should be purified by drainage and tillage. To make rapid and profitable gains the poultry should at all times be kept comfortable and cheerful.

ATTENTION TO BROODY HENS

Keep Brooding House Dark and Handle Fowls Carefully, Avoiding Unnecessary Excitement.

If the eggs are to be placed under a hen, transfer her at night and keep the brooding house dark for 24 hours. Handle the broody hen carefully. Do not excite her or she may refuse to sit. Keep her nest clean and free from lice and be sure that fresh water is always at hand.

LIME AND MINERAL MATTER

To Prevent Soft-Shell Eggs Hens Must Have Proper Ingredients—Exercise is Good.

Soft-shelled eggs are primarily due to the improper working of the egg-laying organs. This often comes about because the hen is not supplied with sufficient lime and mineral matter in her ration. Sometimes, too, a large supply of animal food will unduly excite the organs, preventing them from their proper function. Overfeeding hens is another cause. When the cause is located, the remedy suggests itself. For overfeeding or overstimulation, supply 20 to 50 grains of epsom salts as a dose for the adult fowl and regulate the feeding methods. The medicine may be applied in the drinking water or in the food. Exercise will take away the attention of the hens from the soft-shelled eggs.

DUCKS REQUIRE MUCH FEED

Grows Faster Than Chicken and is Ready for Market Earlier—Weight of Pekin Eggs.

A young duck eats much more than a chicken of the same age, but it grows much faster and is ready for market much earlier, so that it costs no more to raise a duck than to raise a chicken.

After ducks get their growth they can be fed as cheaply as hens and during laying season, when ducks are averaging a pound of eggs a week, do not need any more feed than do the hens.

Twelve Pekin duck eggs weigh as much as 17 hen's eggs—a little more than two and one-fourth pounds.

PLOWING UP POULTRY YARDS

Fowls Get Beneficial Effect of Purifying Influence of the Freshly-Turned Soil.

By plowing or spading up the poultry yard two or three times during the summer months, the fowls not only get the beneficial effect of the purifying influence of the freshly-turned soil, but the manure is turned under, and considerable excellent food is obtained by the scratching birds.

HEAT FLASHES, DIZZY, NERVOUS

Mrs. Wynn Tells How Lydia E. Pinkham's Vegetable Compound Helped Her During Change of Life.

Richmond, Va.—"After taking seven bottles of Lydia E. Pinkham's Vegetable Compound I feel like a new woman. I always had headaches during the Change of Life and was also troubled with other bad feelings common at that time—dizzy spells, nervous feelings and heat flashes. Now I am in better health than I ever was and recommend your remedies to all my friends."—Mrs. LENA WYNN, 2812 E. O Street, Richmond, Va.



While Change of Life is a most critical period of a woman's existence, the annoying symptoms which accompany it may be controlled, and normal health restored by the timely use of Lydia E. Pinkham's Vegetable Compound.

Such warning symptoms are a sense of suffocation, hot flashes, headaches, backaches, dread of impending evil, timidity, sounds in the ears, palpitation of the heart, sparks before the eyes, irregularities, constipation, variable appetite, weakness and inquietude, and dizziness.

For these abnormal conditions do not fail to take Lydia E. Pinkham's Vegetable Compound.

Job for Photographer.

"I want you to take a picture of our Joe here," said the fond parent to the country photographer.

Joseph was requested to stand in a certain attitude and look towards the photographer. That gentleman's specialty was quick developing, and in a short space of time a negative was placed in the mother's hand. She looked at it very uneasily for some time, and then remarked:

"I seen a notice in the window there to say you can do photos to customer's desire, so I'd be obliged to you if you could put another face on Joe. You see, it's to be sent with an advertisement which said 'they wanted a boy, smart-looking and honest.'"

ASTHMA

"I have been a sufferer from asthma for thirty-two years," writes Mrs. J. P. Bishop, 744 Fatherland St., Nashville, Tenn. "I got to the place where I could not lie down for months at a time. I tried all kinds of medicine, but got no relief. Lung-Vita was recommended. I bought a bottle and can truthfully say that I have not been bothered with asthma since I took the first bottle."

Many other testimonials on file showing what Lung-Vita has done in cases of consumption, asthma, grippe, colds, croup, and whooping cough. At your dealer or direct. Price \$1.75. Free booklet upon request. Nashville Medicine Co., Room 7, Steger Bldg., Nashville, Tenn. Adv.

Hide the View.

"Do I understand you to say," said the lawyer, looking hard at the principal witness, "that upon hearing a noise in the hall you rose quickly, lit a candle and went to the head of the stairs, that a burglar was at the foot of the stairs, and you did not see him? Are you blind?"

"Must I tell the truth?" stammered the witness, blushing to the roots of his hair.

"The whole truth," was the stern reply.

"Then," replied the witness, brushing aside his damp, clinging locks and wiping the perspiration from his clammy brow, "my wife was in front of me."

Whenever You Need a General Tonic Take Grove's

The Old Standard Grove's Tasteless Chill Tonic is equally valuable as a General Tonic because it contains the well known tonic properties of QUININE and IRON. It acts on the Liver, Drives out Malaria, Enriches the Blood and Builds up the Whole System. 50 cents.

What Bait?

"Are you inviting that queer fish, Mr. Jimson?"

"Yes, I'm dropping him a line."—Boston Evening Transcript.

Some people can't stand prosperity, but the majority don't get a chance to try.

Old Age and Death Start in the Liver

Your liver is the Sanitary Department of your body. When it goes wrong your whole system becomes poisoned and your vitality is weakened. The best remedy is

Dr. Thacher's Liver and Blood Syrup

A purely vegetable compound, laxative and tonic in effect. It cleans out your body, and puts energy into your mind and muscles. We recommend this remedy because we know from many years' experience that it is effective.

Keep a bottle in your home. 50c and \$1 at your dealer's.

THACHER MEDICINE CO., CHATTANOOGA, TENN.