THE FLAT PEA.

What Various Authorities Say About Farmers have fought rather shy of the flat pea, although it has received attention from the agricultural press both here and abroad. The experience of stations in different sections of the with fire, but the forest worms make country has been thus summed up:

The California experiment station reports that the flat pea maintains a heavy growth with very little moisture, keeping green all summer without irrigation. Cattle and horses will eat the row best on upland, sandy soils.

The North Carolina station reports

that the flat pea requires three or more years to secure a stand, and then it is of no practical value fer North Carolina. "The flat pea we place next to sachaline as the most loudly trumpeted swindle perpetrated upon the long suffering public in recent years." The Alabama station reports that flat peas grow eight to ten inches high the first year, withstand light frost, continuing to grow throughout the winter. Cows and horses crop the vines, especially before other plants have started. It is regarded as good a soil renovator as cowpeas. The Nebraska station reports that this fodder plant appears to be too tender to stand ordinary treatment and does not

The Utah station reports that Lathyrus sylvestris dried up during the summer of 1893, although it remained green several weeks after the alfalfa plants growing with it were dead.

The Kansas station reports that young seedling plants of the flat pea withstood the draight satisfactorily.

At the Hatch station, Massachusetts, the flat pea was cultivated for two years at considerable expense without securing any fodder.

In the Michigan experiment station report for 1895 it is stated that the flat pea had grown with fair success for diminished in production of milk and butter fat when either green or ensilaged flat pea fodder was fed as a part of the

Dr. F. Lamson-Scribner, in the report which furnishes these facts, does not recommend the flat pea where the usual forage crops can be grown. He says the land should be prepared for receiving this crop the same as for wheat or corn, although it is claimed that the flat pea will grow in regions or in soils where these crops will not succeed. The young plants usually come to the surface within three weeks from planting and during the first season make:a small growth, 10 or 12 inches perhaps. The land during this season should be kept free from weeds and the vines cultivated. The second year the growth is more vigorous, and during the third year the plants attain their

In the gulf states the vegetation perennial, but in the latitude of Washington the plants die down in the winter, although they are quite resistant to frost and are slow in starting in spring. Their heaviest growth appears August, and at this season the vines make: a dense mat, completely covering the ground, often to the depth of three or four feet. This tangled mass of vines is cut with difficulty and must be mown with a scythe or cut with a sickle. The wines, when cut, dry out readily, and the making of the hay is a simple matter.

The Spraying of Muskmelons. Experiments in spraying musk melons at the Ohio station leave the matter

A limited crop of very early musk melons upon early soil may be grown by transplanting, and harvested with-out apraying; the later melons on such vines are almost certain to be rendered worthless by attacks of disease upon the

Late muskmelons or late yields from early wines cannot be secured without spraying for fungous diseases, and no one can hope for success in this line without great thoroughness in spraying, beginning for southern Ohio as early as July 20, and for northern-situations not later than Aug. 1. What has been stated applies also to

The Shape of the Haycock. According to mention made in The New England Homestead of a Danish experiment, it was found that spreading the grass or stacking it in the usual cake shaped piles would not only reduce its quality, but retard the process of drying. "The making of tall, long, narrow cocks," says the report, ern kaymaking. Some loss is, of course, mayoidable in bad weather and during long spells of rain, but this will never be so great as it might sometimes be

ander the old method. The low, circu-

lar cocks of hay that one sees abundant

in the fields should not exist.

Some Things Lime Will Do. Rabbits, where they abound, do much damage to young cabbage, cauliflower, etc. A little lime dusted on the leaves occasionally in the morning while the dew is on the plants saves them from destruction. This is also effectual against chickens who are partial to this This is also effectual form of green food. It is a simple and harmless agent for keeping the asparagus beetle in check during the cutting period. After that time a little paris green mixed with it makes short work of them, says John Hobson in American

THE FOREST WORM.

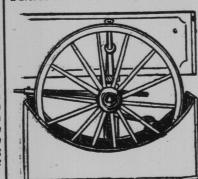
Hard to Fight and Very Destructive The terrible invasion of forest

vorms into central New York has given us an immense amount of extra work when the battle has been fought out, writes a New England Homestead correspondent. But I am sorry to say the fight has gone by default in favor of the worms in the majority of orchards. The mischief was increased by the presence in full numbers of the tent caterno nests. They eat over a wide range and eat clean. They travel from tree to tree, and when you think them sub-dued they turn up in double force elsewhere. They first appear on plum, then on apple, trees. But the battle to clean hay, but avoid the green vines. Sheep these trees was hardly on when they and pigs eat it readily green. Flat peas were found to be all over the maples. were found to be all over the maples. The leaves soon looked like bits of rags dangling from the limbs. The army could be heard all night.

We killed with torch, with arsenical spray, with kerosene spraying. But paris green does little good, and kero-sene must be used cautiously. I found it necessary to go over all trees with mittens soaked in kerosene and crush the worms. They lay in great masses on the limbs at noon. In this way by half a dozen repeated killings my grounds were kept nearly free of mischief. Suddenly I found that they had gone around and were coming in on the other side. They had already terribly defoliated my street maples. We climbed and fought with gloves again and again.
This I have learned—that the worms

will not touch the Norway maples nor Weirs' cut leaved maple, and, as a rule, they avoid the soft maples. They do not attack catalpa or English elms or persimmon or papaw and dislike the pear and cherry. They attack furiously apple, quince, plum, maple, elm, ash and oak trees. They will invade a rasperry patch if not watched, but do not eat the blackberry or strawberry. The sweet cherries they much prefer to the sour. I conclude from my observa-tions of all sorts of insects that the Norway maple is our best street tree as well as the grandest lawn tree in existence. When the worm entered my rasp-

To Preserve Wagon Wheels. Farm, Field and Fireside tells of a method of preventing wagon wheel from shrinking in dry weather, which a North Carolina man says avoids the



TARRING A WAGON WHEEL. ecessity of having tires reset and in this way soon saves itself in blacksmith

bills besides preserving the wagon.

The trough, shown in the illustra tion, is made of sheet iron. In it he puts a supply of pine tar, which is heated over a fire to a boiling heat. The wheel is then jacked up, the trough placed under it and the wheel lowere that the tar will cover the felloes. The wheel is then slowly turned in the tar, which fills every nick and crevice in the wood and between the wood and tire, thus making it impervious to moisture or air. With a brush the hub a also treated with a coat of tar, and if the wagon is old the spokes also in lieu of paint.

Know the Sugar Beet. To the farmer Special Agent Taylor of the agricultural department says:

"Make the acquaintance of the sugar beet. Grow it, feed it and encourage the sugar industry. The sugar beet is extending to farmers who live in the right localities the most friendly greeting of any product I know of that can be grown on the farm. It is the feeding value of the beet, and especially of the pulp, that is going to make the sugar beet industry master of the situation as compared with the cane sugar

Agricultural Brevittes. The pea canning industry is of considerable importance in southern Dela-ware. The varieties of peas most largely used for canning are Alaska, Blue Beauty and French Canne. Advance and Market Garden are canned to a less extent. Three general systems of sowing are in vogue among growers—broadcasting, the 18 inch drill and the wide row systems.

The green worm on cabbage can be destroyed by dusting with pyrethrum or by means of hot water at a temperature of 140 degrees or 160 degrees, delivered forcibly by means of a garden syringe, says Vick's.

Medium late cabbage may be transplanted the latter part of June and the winter cabbage proper during July. New England Homestead reports short hay crop as assured in the New England states.

Professor Samson of the New Hampshire station says that in all their spraying experiments during the past four or five years the bordeaux mixture has appeared to have but little if any effect upon brown spot of apple foliage. From six to seven cultivations of po-tatoes have given pest yields at the Cornell station in experiments continued for four years .

****** Home Cheesemaking

High Standard Which the Market Now Demands.

As a general rule home butter making can be made to pay better than home cheesemaking and with less labor, although I have known many in-

writes George E. Newell in the Boston Cultivator. The writer, having been conversant with the cheesemaking industry from boyhood, would not advise any one to go into it at home without some pre-vious practical knowledge of the busi-

stances where this has been reversed,

The markets of the present day call for cheese of a certain standard quality, whether of domestic or factory manufacture. This standard must be a first class one in order to obtain s profitable price, and unless one feels full confidence in his ability to meet market requirements he should consider milk as too valuable material to experiment with. Nearly every one, however, who con-

direct my remarks. You will not find into the nostrils of the animal. The it profitable to attempt home cheesemaking with too small a quantity of milk. I would place the minimum daily quantity that you should attempt to make up at all at 150 pounds, while 300 pounds and from that up would be

Do not attempt the manufacturing task with crude apparatus any more than you would think of producing No. 1 butter from a ramshackle churn. Aim to have a cheese factory in minia ture, without, of course, many of the accessories that a large factory would find necessary. The heating arrangement of your dwarf vat should be perfect and above reproach. A zinc lined wooden tank, in which rests on supports a removable tin receptacle for the milk, should be used.

several years, but the feeding tests showed that sheep and cows had a decided distaste for the forage. Sheep confined on flat pea pasture lost weight, and cows fed in stable lost weight and diminished in production and control of the control New due to two inches of water space between the tin and zinc sides and bottom, the water of which can be heated from a copper flue, with zinc water packet under all. This is simply a counterpart in principle of the old fashioned factory underheater vat, and I believe can be obtained in any size of most manufacturers of dairy apparatus.

In the improved modern factory vat steam from a furnace instead of hot water under the vat supplies the heat, the principle of cooking the curd being the same.

While obtaining a small vat from a reliable dealer one had better get all the other accessories necessary, as they will be better suited to the puroose if made by an experienced manufacturer than a local workman.

The apparatus necessary to equip a small cheesemaking plant ought not to cost much if any more than the utensils properly required to turn a like quantity of milk into butter.
While aiming to make the same qual-

ity of cheese that comes from a larger factory, you should understand that the greatest opening for the sale of dairy cheese lies in the direction of small bulk.

The demand for fine full cream cheddar cheese that do not weigh over five or ten pounds apiece is never fully satisfied. Most factories object to producing them on account of the increased labor involved and the larger percentage of milk necessary to make a pound of cheese. The increased ratio is caused by the more extensive evaporation of moisture from the small cheese than from the large ones.

It should be borne in mind, however. that these diminutive cheese bring a better price in market than the large ones solely on account of their size. I earnestly advise those dairymen who contemplate home cheesemaking at all to manufacture only small size stock if they would sell at readily for a good

Do not go into the business, however er, unless you have some previous knowledge of it, as it will not prove profitable to experiment with so val-

uable a product as milk. In curing these small cheese be careful not to have the apartment too

Wideawake dairymen not afraid of lots of work and with some previous knowledge of the business can certain ly make home cheesemaking profitable by following the plan outlined

Dairy Blood at Fair Prices Again we call attention to the fact that good dairy bred cattle can be had at quite reasonable prices. In fact we believe that this is a good time for those who need this kind of stock to invest in it. It is not hunting buyers at scrub prices, but as compared with the way other classes of pure bred stock are selling it looks cheap. There will sooner or later be a reaction from the craze for beef that has invaded even the dairy districts, and with the dairy industry promising a healthy condition pure bred dairy cattle will be in better demand than now. The time to get good blood cheap is when it can be had. Those who let pass bargains in trotting bred mares, beef cattle and sheep a few years ago are paying much better prices for the same stock now, and they might have been sellers now instead of buyers had they invested at the lower prices then.-Na-

tional Stockman. Butter receives its texture and its consistency in the churn during churning, and defects which are produced during churning can by no means be subsequently removed.

CALF WEANERS.

imple Devices Which Are Effective The days of the old fashioned wean-

ers-made of an old boot leg or a strap full of nails-are numbered. While these were comparatively satisfactory, as far as weaning the calf was concerned, the nails proved a cruelty to



MUZZLE WEANER

the cows and in many cases resulted in injury. The "muzzle" weaner has for some time been familiar to those interested, but the "safety" weaner is comtemplates home cheesemaking possess-es a general idea of the subject, with of galvanized iron swung from a wire more or less experience, and to such I frame which is so constructed as to fit



SAFETY WEANER

ends are made so they will not wear There should be from one to two the nose or make it sore. The device

The dirty brook should be a theme for thought by more than one dairyman. The man that has no running brook on his farm is more likely to have good water for his cows than the man that thinks he is blessed by a stream of running water. Where the stream is rapid moving and fairly deep it may serve for a drinking place the year round, but in most of our western states the conformation of the land is not such that a stream is either swift or deep or clear. In states that are filled with mountains and hills and forests the streams to a large extent remain pure the year round. The soil on their banks is held in place by a multitude of vegetable growths. Frequently they run over a bed of stones and are little exposed to impurities from the immediate banks. Such brooks may, in mountainous localities, serve as a suitable drinking place for the cattle most of the year or until the summer drought renders them stagnant. But in this great level country of the west conditions are different. The ordinary brook should never be depended on as the water supply for

the cattle. There are few times in the year when it is safe for them to drink from it if the dairyman wants to keep both animals and animal products pure. In the midsummer especially it is a positive detriment to the dairy business. The man with the slimy, muddy brooks too often neglects to have a pure water supply, which his brother farmer, who has no brook, is compelled to supply. We have seen such streams in summer become muddy wallows where the cows both stood and drank. There is no doubt that animals, like humans, contract many diseases solely through bad drinking water. On many farms the conformation of the land is such that shallow streams may be made sanitary by deepening the central channel and sinking a few shallow wells in their beds at various places if the pasture is so large that the cattle would have to travel a great distance on a hot day to

get water.-Farmers' Review. Persistent Milking Wins Last season, when the price for calves went skyward, many farmers who had patronized the creamery and raised the calves on skimmilk thought they could see more money and less bother in letting the calves suck the cows. The indications are that this year calves will not be worth as much money, and as the cattle stock of the country increases to the normal calves will further decrease in value. Those farmers who stopped milking and turned in the calves will then see the mistake they made. They will find that their cows are not nearly as good milkers as they were before, and it will take them several years to build up an efficient dairy herd again. If there is any one thing about dairy-

ing that has been thoroughly and completely demonstrated, it is that milk-ing makes milkers. The best cow in the world can be ruined as a milker in a comparatively short time by simply letting the calf suck her or by carelessness in milking. The poorest cow can be improved by continued and persistent milking. The man who has 10 or 12 or more cows and milks them year in and year out, keeps right at it and practices improved methods of feeding will get ahead right along. It don't pay to milk the cows one year and let the calves suck the next .-Creamery Gazette.

PASTURE FOR PIGS.

Clover and Rape the Best Single Crop-Alfalfa and Sorghum. Swine raisers should make it a point to sow pasture crops this spring for their hogs. The two best crops, aside from alfalfa, where it grows well, are peas, oats, vetches and rape. For the average farmer with, say, three spring litters, all to be fattened for market, two acres should be set aside for pasture crops for the pigs. On one acre sow peas, oats and vetches, and on the other rape. The first acre should be the other rape. The first acre should be divided into two parts. One half of the vetch mixture should be sown by May 1 (earlier, according to latitude), and the other some weeks later. The proportions for one-half acre may be one-half bushel each of peas, oats and vetches (torse). This grow will be need. vetches (tares). This crop will be ready for the hogs when five inches high, says

a Canadian correspondent of The Country Gentleman, who also advises as fol The area intended for rape should be well worked during May and given a light dressing of manure. The rape seed may be sown some time in June, in drills, at the rate of two pounds of rape and one-half pound of flat turnip seed to the acre. These two acres, thus pre-pared, should afford ample pasture for the hogs right through the growing season and will be equal to three tons best mill feed. Hogs pasturing on this feed should receive a mixture of shorts, bran and corn morning and nightabout two pounds per day to a pig of 100 to 125 pounds in weight, more or less, according to the growth of the pasture. Do not depend on red clover. Even at best it makes poor pork. Red clover is held responsible for much of the soft pork in the market, whether

correctly so or not. Alfalfa and sorghum are two crops that our farmers who raise pigs should give a trial to this spring. I believe altimes, the turnips will only need hosting in the line of the rows. Turnips falfa to be the best pasture for swine of any when it grows well—but that is times as much as they would if sown not everywhere. A few pounds of alfalfa times as much as they would if sown the nose or make it sore. The device does not interfere in the least with feeding, but is said to wean the most obstinate case, as it prevents sucking sidewise as well.

Interverywhere. A few pounds of alfalfa seed sown in even a quarter of an acre of nicely prepared ground would be but a small venture. Sorghum is another catch crop by the extra labor required to hunt over a large field to gather the catch crop by the extra labor required to hunt over a large field to gather the catch crop by the extra labor required to hunt over a large field to gather the give a trial to. A dol own broadcast in a piece of ground, free of weeds, about June 1, might possible be a paying investment in all parts of North America. For soiling swine sorghum is highly commended. It may be cut twice in the season, and for this be cut twice in the season, and for this purpose, or for pasturing, is ahead of in that time, and all those that are

Mr. Powell of Ghent strongly recommends crimson clover for a hog pasture. In a letter to the writer he leaves no room for doubt of its adaptability for swine feeding. In order to get the greatest benefit from this crop of this year's sowing, he recommends that some red clover be mixed with it. It grows much faster than red clover late in the season. I should use crimson clover, however, for fall feeding, and for this purpose it need not be sown before June or July. Crimson clover deserves a trial by our farmers. Sow 50 cents' or a dollar's worth of seed this spring or summer,

anyway.

The best single crop is by all odds son till late fall. The following mixture and as better grasses are usually ver, four pounds of mammoth, four pounds of lucera and five pounds of Dwarf Essex rape seed. If the land is naturally low and inclined to be wet, a naturally low and inclined to be wet, a cording to Agrostologist T. A. Williams

Ringing Grapevines. Conclusions drawn from results of exeriments at the New York station are Vines should be vigorous and not be

ringed too severely.

A ringed vine cannot carry as large a crop of fruit to maturity as an un-girdled vine. Vines grown on renewal system should

have all arms ringed and all fruit back of the ring should be removed. Fruit on unringed arm is inferior, while fruit back of a girdle is worthless. With many varieties, when properly done, ringing does not seriously injure

the quality of the fruit. Not all varieties should be ringed. Too severe ringing will kill the vines. With some varieties and in some sea ons girdling will hasten time of ripen ing eight or ten days and in some case

ncrease size of bunch and berry at least half. Canadian Oats. The 12 varieties of oats which have produced the largest crops in 1898, taking the average results obtained on all

the experimental farms of Canada, are: -Per acre. 1. Bavarian ... 2. Banner..... 8. White Giant... 9. Abundance. 0. White Schon

Likes the Zigzag Sweet Corn. Of all the intermediate varieties of sweet corn for home use The Rural New Yorker expresses a preference for the Zigzag—first, because the plants grow to a medium height and bear the ears not too high; second, the average of ears to the stalk is as large as any other excellent variety; third, the ears are just right in size and form, tapering from the butt to the tip. The ker nels form as close together as possible They are deep, the cob is small.

CULTIVATING TURNIPS.

Better Way Than Growing Them as a Catch Crop In Corn, Etc So many farmers sow turnips as a catch crop in corn and potatoes that they forget there is any other method of growing them. The American Culti-

vator points out what it considers the better way: As a rule catch crops do not pay. They always interfere with the late-cultivation of hoed crops, which is always important and sometimes necessary if there is a dry time late in summer. Now that most farmers cultivatehoed crops very shallow late in the summer, merely scratching the surface to kill weeds while they are small, there is less objection to late cultivation than used to be the case. In the old days, when a plow was used at the last cultivation to pile the soil up against the hills of corn or potatoes, the result was always injury and often ruin to the crop. In such case, too, there was little chance for turnips to grow, as the soil piled up against the hills turned the water into the middle of the rows, or, rather, the corn leaves themselves did so, as they bend over to the middle of the rows by July and often in June, turning the slightest. shower into the middle of the row, where most of the corn roots are. Under the hill the soil is almost always dry until the corn is cut. The potate top does not lop over so much, but it-too, throws a good deal of the moisture that falls on it into the space be-

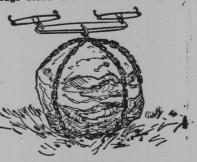
tween the hills. In either a dry or wet season turnips are better if grown where they can be cultivated and hoed. If the seed is sown in drills two feet apart, a horse can drag a narrow cultivator through this space, scratching the dry soil and not only killing small weeds, but throwing a little dust over the turnip plants. This will kill the fly that destroys the tender leaves. A better way is to scatter dry lime or gypsum in the line of the rows, thus enabling the cultivator to keep his horse between without stepping on the young ing in the line of the rows. Turnips

grown on a quarter of an acre. Besides this the plan of cultivating turnips cleans the land of weeds. Growing them as a catch crop leaves all the weeds to grow as long as the turnips biennial will root themselves under shelter of the catch crop ready to grow.

and seed next season. A farmer may sow turnips among growing corn or potatoes if he has no other place for them. But it is not an economical practice, and usually the corn or potatoes are injured by lack of cultivation more than the turnips are worth, even if they could be harvested for nothing.

A grass abundant throughout the eastern Rocky mountain region in-strongly alkaline soils, but of little value except in times of scarcity of forage, is the common salt or alkali grass. clover and rape, sown early in well pre-pared and fertilized ground in the pro-portions of 12 pounds of mixed clover seed and 5 pounds of rape. This crop er grasses are to be obtained. Sheep will be a fair pasture for hogs 8 weeks from sowing and right through the sea- It is abundant in the Bad Lands regions. is suggested: Four pounds of red clo- scarce there it is sometimes cut for hay. In localities where the land is be-

> How to Drag Stone With a Chair A correspondent sends the Ohio-Farmer a sketch showing how ho drags stone with a chain: Draw the



DRAGGING ROCKS chain back over the stone well up to the doubletree, then pass the chain once around the stone, over the chain at the doubletree and hook it behind. It will never come off.

It has been noted by the Pennsylvania station that some of the German varieties of potatoes, especially, the Professor Dr. Maercker, showed great esistance to the action of the blight, very much more than any of the American varieties.

Hay is frequently baled in the field along the Hudson river, says Country Gentleman, and sent to market for imnediate use. The buver gets it for less than old hay, and the farmer sells. more weight. Regular hay buyers insist on at least six weeks' curing in mow or stack.

Orange Judd Farmer's reports from correspondents make it appear that the corn acreage is unprecedented, the total breadth being the greatest in our history. The area now reported as growing reaches the enormous aggregate of 83,677,000 acres, a royal empire in itself. It exceeds the acreage of 1897 by a little less than 1,000,000 acres. The increase is general, every state prominent in the production of corp abaring in it.