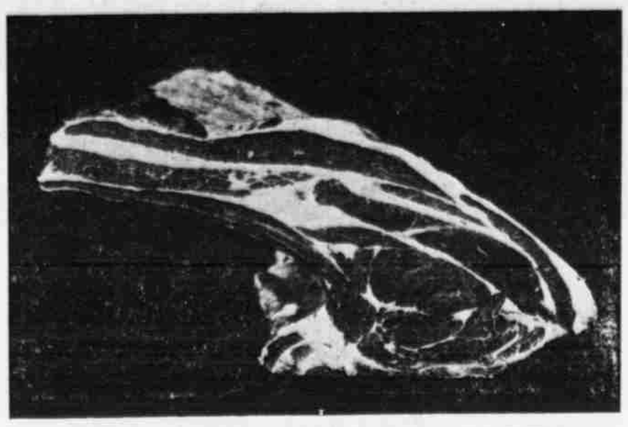
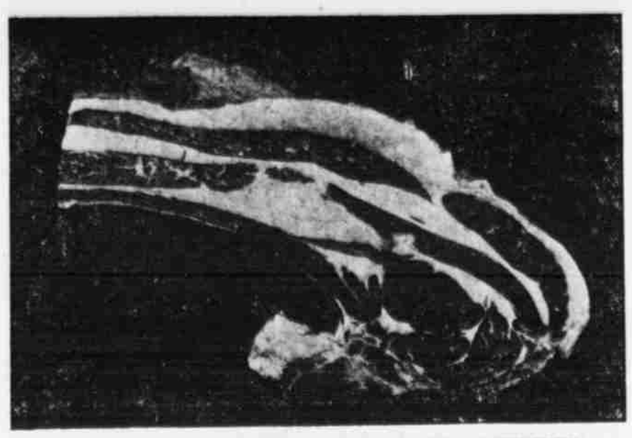
What Animals Produce Good Beef, Good Mutton and Good Pork



NO. 1—CUT FROM BLUE-GRAY STEER—UNFINISHED.



NO. 2—CUT FROM BLUE-GRAY HEIFER—PROPERLY FINISHED.

NO. 3—CUT FROM HEREFORD STEER—OVERFED.

INTEREST in the work of the short course at the Iowa State Agricultural college at Ames this year seemed to center around the block demonstration which was held on January 11. This was, perhaps, owing in part to the great success of the demonstration which was held a year ago and which attracted so much attention. Mr. John Gosling conducted the demonstration a year ago and the college was fortunate enough to secure his services again this year. On the front cover of this issue will be found his portrait, together with Prof. Curtiss of the university.

The general object of the demonstration was to show the necessity of feeding from a utilitarian standpoint. Mr. Gosling made it very plain to those present that a live stock feeder who is in business for profit must produce the kind of stock that best satisfies the want of the consuming public if the greatest profits are to be derived. In other words, animals must neither be overfed nor underfed.

For the purpose of the beef demonstration four animals were selected.

One was a blue gray steer which was underfed.

The second was a blue gray spayed heifer. She was fed just about the right length of time.

The third was a Hereford steer that was overfat.

The fourth was a high grade canner.

The live weight, dressed weight and dressing per cent of the cattle, sheep and hogs used in the demonstration is as follows:

	Live weight, Lbs.	Dressed weight, Lbs.	Dressing, per cent.
Blue gray steer	1,100	719	65.36
Blue gray heifer	1,190	803	67.56
Hereford steer	1,305	888	68.08
Good canner cow	982	476	48.47
Shearling wether—1	178	102	57.39
Shearling wether—2	181	108	59.66
Shearling wether—3	186	113	60.75
Lamb	120	70	58.33
Fat hog	350	271	77.42
Bacon hog	132	86	65.15

These cattle were judged on foot by the students on Monday, January 9. In this connection it should be remembered that Ames college is carrying on some extensive experiments with blue gray steers, which are a cross between a Galloway and Shorthorn, and these animals were some of their own breeding. The heifer was about 22 months old and was a prize winner at the International shows of 1902 and 1903, standing next to Tama Jim, who was first in his class. The blue gray steer was about 22½ months old and was out of a load that topped the Chicago market December 24 on a dull day. The Hereford steer was about 26 months old and was purchased as an example of overfeeding.

CUT OF LAMB BETWEEN SADDLE AND LEGS SHOWING LARGE PROPORTION OF LEAN TO FAT—NICELY MARBLED.—Photo by Staff Artist.

Judged First on the Hoof.

After the cattle had been judged on the hoof they were slaughtered and on Wednesday, January 11, they were put on the block and cut up before the students, under the direction of Mr. Gosling. The accompanying cuts show in excellent manner the proportion of lean to fat in the meat of the three animals. Beginning with the blue gray steer, which can be designated as the thin steer, it will be noticed that the percentage of lean meat is approximately greater than in either the heifer or the overfat steer, but it lacks the marbeling, the fat not being pushed into the lean sufficiently. It would have been improved had the feeding been carried on a little longer. The Chicago cutter said, however, that it was the kind cut up most in the markets in Chicago. It was also noticed that the meat was a trifle coarser than in the heifer and not so rich, owing to the fat not being pushed into the lean.

Taking the heifer which is shown in illustration 2, it will be seen that the proportion of lean to fat is smaller than in the thin steer, but greater than in the overfat steer, shown in illustration 3. The heifer dressed 67.56, as compared with 65.36 for the thin steer, and 68.08 for the overfat steer. The canner dressed 48.47. The peculiarity about the heifer was that she carried a large amount of internal fat, while the overfat steer carried his fat on the outside. It will be noticed that the heifer meat is beautifully marbeled and was pronounced of finer quality than either of the steers. It would meet the highest demands of the trade, though, perhaps, there might be some objection to the thick vein of fat in the side. As a general thing, though, it is just about right for the high classed trade, being both rich and fine in quality.

What Too Much Fat Does.

The feature of the overfat steer is the excessive amount of fat on the outside, as well as the thick veins of fat pushed through the lean. This is clearly a case of a steer being overdone. In the show ring such a steer would, of course, be placed over one like the thin steer or heifer, but from a utilitarian standpoint the overdone steer is unprofitable, owing to the cost of producing that extra amount of fat, which is practically waste. By noticing the three cuts of meat it will be seen that the extra feed put into the overdone steer simply went into fat, or, in other words, into waste. The loss in the thin steer comes from the fact that there is not quite enough fat to give the flesh the proper richness and more feed could have been given the animal to advantage.

The cutter or high grade canner used in the demonstration was bought for $18. She was slaughtered and cut up to show the different grades and different uses to which such meat is put. The tenderloin was stripped out, the lean meat was taken off the back and upper ribs, and, in fact, the ribs were stripped. The rounds were cut to show from which parts the corned beef, dried beef and chipped beef of commerce are obtained. The fact was also brought out that it is from just such canners or cutters that the fine steaks are taken which people buy at many hotels, dining cars, restaurants and butcher shops.

Characteristics of Good Mutton.

In addition to the beef there were demonstrations in sheep and swine. On Monday three shearling wethers and a Southdown Dorset lamb were placed in the show ring and judged. The wethers were placed ahead of the lamb from a show standpoint. When slaughtered the wethers killed out exceptionally fat, carrying from one to one and a quarter inches of fat along the back, while the lamb carried about one-half inch. The three wethers dressed 57.8, 58.76 and 60.75, respectively. The lamb dressed 58.23.

One point given special attention was the size of the eye of meat in the back of the lamb, being larger than in the wether, showing the excessive fat in the wether. There was very little waste in the lamb. The dressed weight of the lamb was about seventy-two pounds, which gives about eighteen pounds to the quarter, which is a very desirable weight on the market. Anything from sixty to seventy-two pounds is called handy weight. Very heavy sheep have to go to clubs and special customers.

The carcasses were also cut to show the amount of lean meat between the saddle and the legs. These cuts are shown in the accompanying illustration. Here again the lamb showed to the best advantage, having a larger proportion of lean to fat and nicely marbeled.

Mr. Gosling called attention in an interesting manner to how easily a superior carcass can be made to appear inferior by simply a slip of the knife in the hands of the cutter. To show this he pointed to the patches of fat in the lamb marked in the above cut with a cross. In reality there is but a thin film of fat there, and had the knife passed but a shade to the rear it would have shown lean meat the same as on the opposite sides.

Swine Under Butcher's Knife.

For the swine demonstration two hogs were selected. One was a fat back Chester White barrow, weighing 360 pounds. He dressed out 77.42. He was out of the winning pen of Chester Whites at the International. The other was a Tamworth pig, weighing 132 pounds, and dressed 65.15.

In the accompanying illustration the two are shown on the hooks, the larger of the two, of course, being the Chester White.

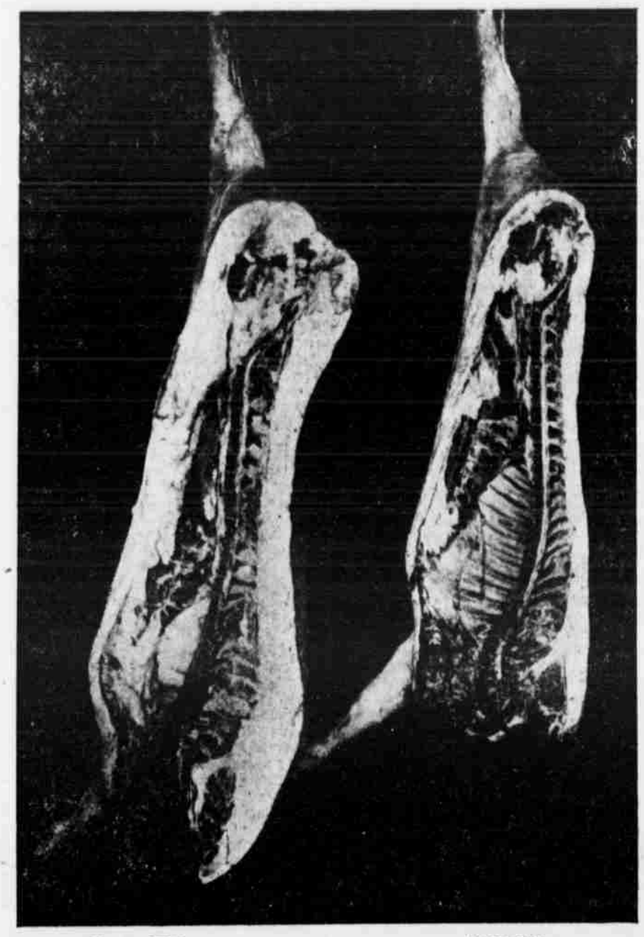
The excessive fat in the Chester White is very apparent. The pig, on the other hand, would have to be considered unfinished, as a bacon hog should weigh from 180 to 200 pounds and should have from one and one-fourth to one and one-half inches of fat on the back, while this one only had one-half to three-fourths of an inch. In spite of this fact, a butcher would consider him a profitable hog, as he is handy weight and the kind that takes well on the market. From a feeder's standpoint, though, he is not as profitable as one that is carried until weighing around 200 pounds, as a 132-pound pig is just in condition to put on flesh rapidly. The fat back, however, is unprofitable to the feeder, as the cost of producing that excessive fat is too great.

Some Representative Students.

Among the younger men who took the course was D. A. Kooker, jr., of Arcelia, Wyo. He represented the Wyoming Cattle company, which controls the Camp Stool ranch. He was sent to Ames by his company to get in touch with the demands of the feeder buyers, packers and consumers. In speaking of his trip Mr. Kooker said that his company realizes that the farmers of the corn belt are being educated along the lines of correct feeding. That means that in the future they will be more discriminating in their selection of feeding stock. The western ranchman is primarily a producer of feeding cattle and therefore it devolves upon him to produce the kind that will be wanted. With that end in view Mr. Kooker went to Ames and said that from what he learned the feeding steer that will be in the greatest demand in the future will be low set, with straight lines both above and below. He must be broad, thick and deep, with a good head, and be well balanced generally. With that type in mind the breeder can set to work to improve his stock and in that way secure the highest market prices.

H. E. Haulman of Ankeny, Ia., was another interested student. Mr. Haulman has been a butcher and dealer in live stock of all kinds for nineteen years and yet, as he said, he found from his experience at Ames that he still has a good deal to learn. He was particularly impressed with the way in which Mr. Gosling in the beef demonstration pointed out to farmers the necessity of feeding from a utilitarian standpoint. That is, they must feed with the idea of producing the beef for which there is the greatest demand. The average farmer is not in position to feed for the show ring, that should be left to the breeder of pure blood cattle. In traveling through the country buying cattle for the Chicago market Mr. Haulman said he has an excellent opportunity to see how few farmers know when their cattle are ready for the market. They either underfeed or overfeed, with the result that they do not get the greatest profit. If a farmer is to be a successful feeder he must learn to tell when his cattle have reached the pink of condition and there is no way in which he can learn that so easily and quickly as by attending the beef demonstration at Ames college. Mr. Haulman also thought the course in horse judging was of great value to Iowa farmers and he is of the opinion that there is a good margin of profit for the farmer who will breed high class horses, either heavy or light.

E. R. DAVENPORT.



Chester-White. Tamworth.
EXAMPLES OF UNDER AND OVER FINISHED HOGS.—Photo by Staff Artist.

Uncle Sam's Matrimonial Bureau and Some of Its Offspring

(Copyright, 1905, by Frank G. Carpenter.)

WASHINGTON, D. C., Jan. 19.—(Special Correspondence of The Bee.)—Uncle Sam has turned matchmaker!

The fact need not excite the 80,000 spinsters of Massachusetts nor the millions who are pining for husbands in the other parts of the United States. Uncle Sam's matches have not to do with human beings. Such unions are made in heaven. Uncle Sam's marriages are of the earth, earthly. They are the marriages of plants and fruits, and they are adding to the wealth of the country. I can't tell just how much; but the sum runs high into the millions, and the matrimonial bureau is just beginning to work.

New Oranges for the South.

I spent today at the Agricultural department talking with Dr. Herbert J. Webber, the head of the laboratory of plant breeding, and with other scientists on what is being done to produce new plants and fruits. Dr. Webber has devoted his life to this work, and under the direction of the secretary of the agriculture he and his associates are accomplishing wonders. They have produced new cottons, tobaccos and grains, and they have now discovered an orange which will grow about 300 miles further north than any we now have. At present the oranges of the United States are grown almost altogether in the southern half of Florida and in a comparatively small part of California. This will extend the orange region northward throughout Georgia and into South Carolina, the gulf states, Texas, parts of Arizona and into many other parts of California. It will make it possible for every southern farmer of these regions to have an orange grove in his back yard, and oranges will be as common there as apples are throughout the north.

It took ten years to produce this result. How it came about is as follows: In 1894 and 1895 we had a terrible frost which destroyed the orange groves of Florida. The trees were frozen down to the ground, and upon looking back it was found that such frosts had come from time to time and destroyed everything. The department then tried to find a hardier orange which would withstand the cold, and Dr. Webber and Prof. W. T. Swingle, who were then working for the department in Florida, were given this task. After a time Prof. Swingle dropped out, but Dr. Webber continued and produced the oranges which he showed me today. The first work that was done was the selection of hardy trees. They picked out the toughest and tried to breed tougher ones by seed selection. This was very slow, and they looked around to see if they could not find types with which they might cross breed.

Among the other things experimented with was a hardy little orange tree which grows as far north as New York. There are some on Long island and several in the agricultural department grounds. The tree is grown for hedges. It is known as the Trifoliate orange and it has a fruit about as big around as a baby's fist, but as sour as vinegar and as bitter as gall. It is, however, a perfect orange in shape, and is really an orange, although not fit for eating. They took this tree and married it to the sweet orange tree of Florida, and after many trials they have now produced the trees which will grow and fruit 300 miles farther north.

The new orange is three inches in diameter; it is a good eating orange, although a little bitter. It can be propagated by budding and can be easily spread throughout the southern portion of the United States. Our navel oranges all come from a tree which was sent here from Brazil and grown in the agricultural hot houses. That tree was the father of the seedless orange industry of California. These trees will be the father of orchards all over the south.

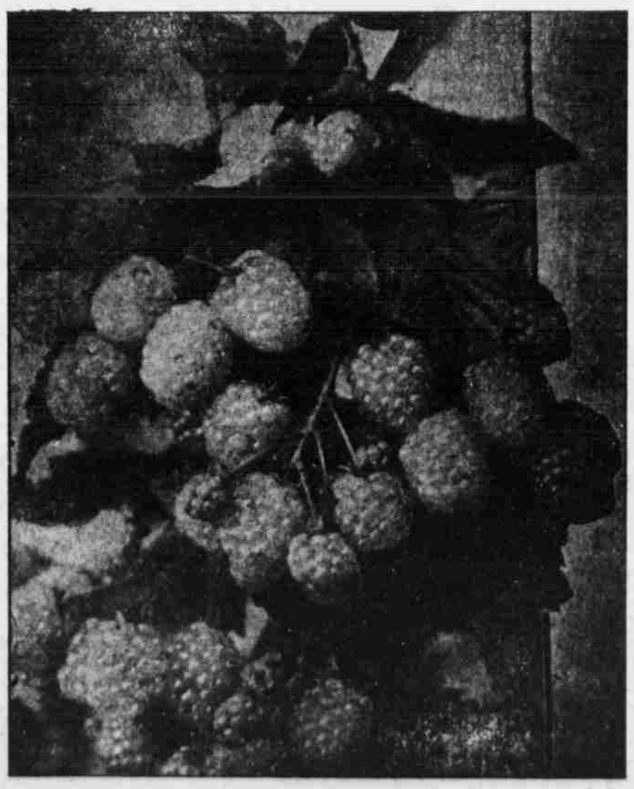
Orange-Lemons and Pomelos.

In crossing these trees several other varieties of oranges were produced. The seed from the union had to be first planted, and as it takes about as long for an orange tree to yield fruit as it does for an apple tree, it has been several years before the department could know whether it had anything or not. The first fruiting came this year. One variety was the Rusk orange, named after the late Secretary Rusk, of which I have already written. Another was an orange-lemon of just about the size of the Rusk orange. This orange is as sour as a lemon and it tastes not unlike one, having a delicious flavor slightly different from the lemon. It has more juice than a lemon of the same size, as can be seen by a photograph I give of several tubes showing the amount of juice in each fruit. This orange-lemon can be grown wherever the Rusk orange can be grown and it will give orange-lemon orchards to millions of families throughout the south where lemons cannot now be grown.

Another of the trees produced by marrying the Trifoliate orange with the Florida orange has a fruit which might be called the orange pomelo, or the pomelo orange. This fruit is about the size of a large orange, but it tastes somewhat like a cross between the orange and the pomelo. It will grow in these same localities and will make a fine breakfast food. In short, from the union of these two varieties of trees, one little more than a scrubby bush and the other a fine orange tree, have been produced three good varieties of trees which will give the greater part of the south oranges, pomelos and lemons.

The Tangelo.

Have you ever seen a Tangerine orange? It is a little orange with a loose skin so fastened to it that it is sometimes called the kid glove orange. The skin can easily be taken off and the sections of the fruit pulled apart and eaten. You know also the grape fruit or pomelo, which has a delicious acid flesh, but a bitter, tight-sticking skin. Both fruits are sold in the markets. Dr. Webber and his assistants have married this little tangerine orange tree to the pomelo, and they have produced a pomelo which, although not so large as the ordinary pomelo, is of a good size. It has a loose skin so that you can tear it off with your fingers as you can that of the tangerine orange. The flesh of the new pomelo orange is more delicious than that of the pomelo itself. It is sweeter than the pomelo and more juicy and acid than the tangerine, and it contains the bitter principle of the grape fruit slightly reduced. It might be called a kid glove grape fruit.



BLACKBERRIES BRED BY LUTHER BURBANK.

Uncle Sam's New Babies.

These products are among the most promising of Uncle Sam's new babies. They are really the output of the Agricultural department and any one good healthy infant of this kind is worth more to the country than the cost of that department for a number of years. In the marriage of cottons Dr. Webster has united the long staple sea island cotton with the short staple upland cotton and has thereby produced a medium staple cotton which will grow on the uplands. The Egyptian cotton has also been cross bred with Uncle Sam's product and the probability is that we will raise the $11,000,000 worth of Egyptian cotton which we now import, upon our own soil. I have written as to the wonders which have been accomplished in tobacco breeding and something as to the improvements being made in our corn. In the plant breeding houses of the department here I have examined the crossing of the Texas blue grass with the Kentucky blue grass whereby they hope to get a rich sod which will grow all over the south. In the same houses they are breeding clovers with alfalfas and also lettuces and different varieties of flowers which have a commercial value.

Marriage of the Lettuces.

One of the strange things is the marriage of the lettuces. There are two commercial varieties in the United States, one of which is sold east of the Alleghenies and the other west, the latter being raised chiefly about Grand Rapids. The Grand Rapids lettuce is a loose lettuce with long loose leaves, delicious to taste. The eastern lettuce is a head lettuce and is much better in some respects for the table. Dr. B. T. Galloway, the chief of the bureau of plant industry, first figured out in his mind what he thought would be an ideal lettuce for the market and he then told his experimenters to go to work and see if they could not produce that lettuce by crossing the different varieties. They have married the eastern and western lettuces and they think they are rapidly producing their ideal. Indeed, I saw many heads of lettuce today in the plant breeding hotbeds which seemed almost perfect and combined the excellencies of both varieties.

In talking with Dr. Galloway the other day he told me of some experiments he had made with violets. He wanted to show that money could be made by raising them if they were properly handled, so he established a commercial hotbed and set out 5,000 plants. As they grew he found that some produced only one blossom apiece and that others had a half dozen or more, that some flowered in the month when they brought the biggest prices and others just when there was the least demand. He made a careful selection of seeds and after a time produced violets which flowered just at the right time and in the largest number per plant. The result was the hotbed paid a good dividend. He had then shown the success of his experiment and sold out. His successor paid no attention to plant selection and in a short time he was making no more out of the hotbeds than his neighbors.

Romance of the Potato.

Among the most romantic stories of plant production is that of the prosaic potato. Potatoes are ordinarily produced by planting the potato or cuttings of it. A potato plant, however, sometimes produces a seed which may be planted and may possibly yield a new variety. About 1850 a man named Goodrich experimented with wild Peruvian and Chile potatoes. He grew seedlings from these plants for a number of years and finally from them produced two varieties which were fairly valuable, one of which was known as the Garnet Chili. In 1860 Mr. Albert Breese of Vermont planted some seed of a Garnet Chili plant and one of the results was the Early Rose. When this potato was put on the market it brought fabulous prices, and it is still one of the most valuable potatoes we have.

It was the Early Rose which was the mother of the Burbank potato, which was named after Luther Burbank, who was a school boy when he discovered it. Young Burbank had heard what Breese had done in producing the Early Rose, and he had become generally interested in plants of all kinds. One day while walking through a field of Early Rose potatoes he saw a seed pod on one of the plants. He watched it carefully thinking he would save the seed and plant them. The field was near where he went to school, and he examined the pods from day to day until they should be ripe. He was especially anxious about them, for, although such seeds are often found on other varieties of potatoes, they seldom occur on the Early Rose. One morning when he looked for the pod he found it had disappeared. His heart fell, but he got down on his knees and hunted the field over. He cried over his loss and went every day for a week to the field looking for this seed pod. He finally found it about sixteen feet away hidden under another vine. It had evidently been knocked off by someone passing rapidly. He kept the seed pod and the next year planted the seed. From the plants which grew he secured the one which produced the Burbank potato, which is now known throughout the world.

Burbank's Wonderful Discoveries.

As he grew older Burbank became still more interested in plant production. He worked for a time in the shops of the Ames Plow company in Massachusetts, and there invented improvements in woodworking machinery which were so valuable that his employers offered to multiply his wages twenty-five times if he would stay with them. He decided, however, that he cared more for plant breeding than for shop work, and finally went to California, where he started a plant breeding farm. He has this farm, just outside Santa Rosa, Cal., and upon it has produced some of the plant wonders of the world. He has produced no end of flowers, vegetables and trees, as well as new varieties of fruits. He has married the plum to the apricot, and got what is known as the plumcot. He has made a white blackberry, and has taken the common field ox-eyed daisy and made the Shasta daisy, a beautiful flower, many times as large. The Shasta daisy will grow out of doors and will bloom several months every year. He has originated new calla lilies and a great variety of peaches, apples, pears, plums and nuts, as well as valuable trees, fruits, flowers and vegetables.

Gets $10 an Hour for Private Talks.

I met the other day a man who had just visited Luther Burbank. He tells me that the people who live near by cannot understand him. They look upon him as a harmless idiot, who is raising thousands of plants and cutting them down without reason and then raising others. They do not realize that he is carrying on a great business and that he is doing wonders for the world. He is wrapped up in his work and wants to devote himself to it. He is a modest man and does not care for notoriety. He keeps away the crowd of sightseers to some extent by charging for his time. His price to interviewers is $10 an hour, and I am told that many people are glad to pay that for the information they get from him. He is an enthusiast on plant production and on plant breeding, the possibilities of which, he says, can hardly be estimated. In a recent paper which I have before me he speaks of the great staples of the United States, saying:

"It would not be difficult for a man to breed a new rye wheat, barley, oats or rice which would produce one grain more to each head, or a corn which would produce an extra kernel to each ear, another potato to each plant or an apple, plum, orange or nut to each tree. Suppose this were done, what would be the result? In the five staples only, in this country alone, we should have annually, without effort and without cost, more than

5,200,000 extra bushels of corn,
15,000,000 extra bushels of wheat,
20,000,000 extra bushels of oats,
1,500,000 extra bushels of barley,
21,000,000 extra bushels of potatoes."

What Plant Breeders May Do.

Here is what Luther Burbank says plant breeders may do: "Cultivation and care may help plants to do better work temporarily, but, by breeding, plants may be brought into existence which will do better work always, in all places and for all time. Plants are to be produced which will perform their appointed work better, quicker and with the utmost precision.

"Science sees better grains, nuts, fruits and vegetables, all in new forms, sizes, colors and flavors, with more nutrients and less waste, and with every injurious and poisonous quality eliminated and with power to resist sun, wind, rain, frost and destructive fungas and insect pests. It sees better fibers without stones, seeds or spines; better fiber, coffee, tea, spice, rubber, oil, paper and timber trees and better sugar starch, color and perfume plants. Every one of these and ten thousand more are within the reach of the most ordinary skill in plant breeding."

FRANK G. CARPENTER.

Dumbbell Feat Performed in Ireland

AN AMERICAN, Anthony McKinley, with dumbbells in Ireland has made a remarkable showing cently, according to the following extract from the Belfast Evening Telegraph:

On Monday afternoon Anthony McKinley gave another proof of his remarkable speed, staying powers and endurance in handling dumbbells. He gave the exhibition in the billiard room of the Boyd Arms hotel with a twelve-pound one and one-fourth ounce dumbbell, shoulder to arm's length above shoulder, one hand, and succeeded in putting it up 16,000 times in two hours fifty-seven minutes fifty seconds at the rate of ninety times per minute, regular throughout, with one or two over every time after the counter called out and often more. The dumbbell was weighed at starting and finishing, in the presence of all, and the total weight amounts to eighty-six tons five hundredweight one quarter twenty-two pounds. The previous best with this weight, a twelve-pound dumbbell, was by A. Corcoran at Chicago, which was also the greatest total weight ever put up, when on October 4, 1875, he put it up 14,000 times, time not stated, or a total weight of seventy-five tons.

Rival Systems for Prolonging Life

THE Sturges County Old Settlers' association was holding its regular annual reunion.

"I reckon," said the venerable Mr. Simpson to the equally venerable Mr. Skiles, "we old fellows could give these younger men a lot of useful pointers about living to a good old age."

"Well, I guess so," responded Mr. Skiles. "But they wouldn't do as we've done. You couldn't get those chaps to be as particular about what they eat and drink as we are. They wouldn't go to bed at 9 o'clock at night and take reg'lar exercise every day."

"Is that the way you live?"

"Sure."

"Well, that may do for you, but it wouldn't suit me. I eat and drink anything I blame please; I don't take any exercise, and I go to bed whenever I feel like it."

"That'll tell on you some day, Simpson. When you get to be as old as I am you'll see things different. Here I am without an ache or a pain of any kind and I'm 93."

"Huh!" exclaimed Mr. Simpson, with lofty contempt. "I'm 91."

Seizing his cane, he hobbled away in great wrath, leaving the momentous question of longevity and the best method of attaining it still unsettled.—Chicago Tribune.