A Page for the Farmer and His Family

LIVE STOCK

SELECTING BREEDING STOCK

Stock Improvement Is Closely Related to Heredity Control Which Insures Best Matings.

(Prepared by the United States Department of Agriculture.)

Raising the standard of farm animals and poultry and bringing out certain desirable characteristics by slective breeding is receiving more attention as methods of farming for profit become intensified.

The breeding of domestic animals dates back to remote antiquity, when the most advanced races of the old world were still on the border line between savagery and barbarism. It far antedates any but the simplest mechanical arts. Yet while our knowledge of the laws of nature as they apply to mechanics has reached very great magnitude and complexity, it is comparatively only a few years since the principles of breeding have been more than a collection of unrelated traditional beliefs.

The same supersitions on which the shepherds of Asia based their practices at least 30 centuries ago are still widely current, while the one sound principle known to the ancients—selection of the best for breeding stock—is still largely neglected.

The principles of successful animal breeding, as they have been learned by practical experience in the United States and other older countries, and by careful scientific study along definite lines, are outlined in Department Bulletin 905, recently issued by the United States Department of Agriculture.

This bulletin goes into the first principles of reproduction and follows the means by which certain characteristics of one or the other parent are transmitted to the offspring, the methods of selection best suited to intensify the desirable characteristics and weed out the undesirable, the characteristics which can with certainty be expected to continue from one generation to another, those which are uncertain, those which will blend, and those which cannot be inherited.

Aside from mere increase in numbers the purposes which the breeder is likely to have in mind fall under two more or less distinct heads, namely, production of a uniform product, and improvement. A uniform product depends on such control over the heredity of the stock that matings can be made with the assurance that the offspring will be of a certain definite type for which there is a



Calves Selected for Breeding Purposes.

demand. Improvement is, of course, closely related to control over heredity, but the methods which give the greatest control are not necessarily those which lead to the most rapid improvement.

In a broad sense the whole subject of practical breeding comes under the head of selection. The most obvious basis for such selection is the performance of the animals themselves. Unfortunately, the merit of most kinds of live stock cannot be measured directly. The study of conformation as an index of useful qualities has accordingly held a high place as a basis for selection of breeding stock. Live stock judging has this for its purpose. An animal of good breeding is a better one to breed than one of equal individual merit but of mixed or common breeding. Pedigree, though often misused, is a valuable aid to selection, apart from following a general policy of mating. The soundest basis of all for selection of breeding stock is the record of past performance as a breeder, provided the record is sufficiently extensive to give a fair test.

DISPLACING INFERIOR SIRES

Many Farmers Tell Department of Agriculture of Compliance With Better-Sires Plan.

"I disposed of a grade bull last month."

"I sold a high-grade yearling bull."

"Disposed of a scrub bull because we expect to breed to a purebred."

"I castrated an inferior male hog and put in a purebred."

"I will have to buy hogs and they will be purebred."

These comments were received in one day recently by the United States Department of Agriculture from persons enrolled in the better sires—better stock movement. In addition, many others stated that, although they did not own purebred sires, their female stock was bred to such animals, thus complying with the essential requirements of the better-sires campaign.

SUMMER ANNUALS ARE MUCH ALIKE

Cowpeas, Soy Beans and Velvet Beans Have About Same Climatic Adaptations.

COMPARISON MADE OF CROPS

Among Important Points in Determining Value of Legume Are Its Value for Forage and Its Ability to Supply Nitrogen.

(Prepared by the United States Department of Agriculture.)

Cowpeas, velvet beans and soy beans are all summer annuals, agriculturally much alike, and for the best results are adapted to nearly the same regions. A comparison of these crops is not so much a matter of determining which is the best crop as it is a careful consideration of their climatic and soil adaptations and the special uses of each on the farm. Among the important points that determine the value of a leguminous crop are its value for forage, both in quantity and quality, either as hay or pasture; its ability to supply additional nitrogen; and the value of the seed as a cash crop or for its utilization on the farm.

The soy bean ha sabout the same climatic adaptations as corn, and therefore its culture is much more extended than that of either the cowpea



Cowpeas and Johnson Grass.

or velvet bean. The velvet bean is especially adapted to the well-drained portions of the Atlantic and gulf coastal plain areas, while the cowpea can be grown successfully not only there, but throughout the cotton belt and the lower half of the corn belt. The velvet bean and cowpea are quite sensitive to cold, whereas the soy bean withstands considerable frost in spring and fall. Cowpeas and velvet beans both succeed on poor soils better than the soy bean. For soil improvement the velvet bean is, in general, superior to either the cowpea or the soy bean, although the cowpea succeeds under a greater diversity of conditions.

The soy bean is to be preferred for forage purposes on account of its upright growth. The cowpea and velvet bean are viny plants and therefore more difficult to harvest and cure.

As a grazing crop for cattle and hogs in fall and winter the velvet bean cannot be excelled. However, the cowpea and soy bean can be grown over a more extended area, and some of their numerous varieties furnish earlier pasture.

For the production of seed, the soy bean has many advantages over the cowpea and velvet bean. The soy bean matures all its seed at one time and can easily be handled by machinery. Hand picking is most commonly practiced in gathering cowpea seed, although machinery can be used to advantage. It is necessary to pick velvet beans by hand because of the abundant, tangled mass of vines.

The seeds of velvet beans, cowpeas, and soy beans are all excellent feed for cattle and hogs. Cowpea seed, however, is rarely cheap enough for feed, but it is extensively used, especially in the Southern states, for human food. Soy-bean seed, in addition to its value for feed, is valuable for the production of oil and meal, and its use for human food is increasing.

The cowpea will undoubtedly continue to be one of the most important leguminous crops in the Southern states. No other crop sown under such a diversity of conditions or receiving so little attention in soil preparation and cultivation succeeds so well. Under the most varied conditions forage, soil improvement and human food are obtained.

ATTENTION TO WORK HORSES

High Prices Asked for Animals Make It Necessary for Famer to Get More Service.

The time has come when the life and the usefulness of the work horse must have more attention. The high prices asked for horses of good size and ample form make it necessary for farmers to get more and better service from their teams.

SEEDLING GROWTH IS RETARDED BY BRUSH

Close Spacing Desirable to Produce Best Timber.

When Tops of Trees Begin to Intermingle and Crowd Each Other Some of Them Should Be Cut Out for Best Results.

(Prepared by the United States Department of Agriculture.)

When cut-over land is planted in hard-wood seedlings, it may happen that a natural bushy growth will for a few years outgrow the planted trees, overtop them or crowd them, and thus interfere seriously with their development. To insure the proper development of the seedlings, forest specialists of the United States Department of Agriculture say in Farmers' Bulletin 1123, "Growing and Planting Hardwood Seedlings on the Farm," it is necessary to cut down the brush for two or three years. When old trees with wide-spreading crowns threaten to shade the seedlings so they will not develop properly, the bulletin suggests that such trees be cut out a few years after the new planting has been started.

To produce clean-bodied timber, close spacing is desirable. When the tops of the trees begin to intermingle and crowd each other, however, they become like overcrowded vegetables in a garden. Growth is stagnated. A good gardener will pull some of the vegetables in a garden that have reached this condition. When trees have reached a similar stage, some of them should be cut out. In both cases the result is the best development of the remaining part rather than a poor development of the original number. The best formed and most healthy trees should be permitted to remain, and the others that are likely to interfere with their growth should be removed.

Thinnings are usually necessary when a plantation becomes twenty years old, sometimes sooner. The openings in the crown-cover of the stand made by removing trees should not be too large to prevent the growth of the remaining tree tops from covering the gaps in from three to five years. When poles are cut for farm use, a crude form of thinning may be accomplished by care in the selection of trees with a view to the improvement of the stand.

Pruning of tree branches is usually unnecessary, and, because of the cost of labor, undesirable. If a tree is pruned too far up it may become top-heavy and easily broken by severe winds. The catalpa, ash and black cherry are known to have suffered from this, and it seems likely the same is true of many other species. If, because of wide spacing, pruning is necessary, it should be conducted in late winter or early spring, and should not be overdone.

DEVICE FOR CLEANING GRAIN

South Dakota Man Has Invention for Improving Grain Which Is Simple in Construction.

The Scientific American in illustrating and describing an invention of C. Mettler of Menno, S. D., says:

This invention relates to a device for cleaning, cooling and drying grains by air blasts. The object is to produce a device by which various grains



A Vertical Longitudinal Section of the Cleaner.

may be cleaned, cooled, dried and otherwise improved, which is simple in construction, easy to make and carries no mechanical parts to get out of order, or require lubricating.

SPRAYING KILLS HONEY BEES

Discovered That Solutions Applied to Apple Trees Are Destructive to Little Insects.

A series of tests to determine the effect of spray solutions on honey bees is to be undertaken by the California College of Agriculture, following the discovery that heavy spraying of apple trees when they are in bloom has resulted in great loss to bees seeking nectar. It is pointed out that bees are the orchardists' best friends, as they help pollenization.

SOIL IS IMPROVED BY LIME

In Caustic Form It Flocculates Land, Bringing About More Ganular Condition.

The tilth, or friable condition, of the soil is improved by the presence of lime. Lime, especially in the caustic form, flocculates the soil and thereby brings about a more granular and porous condition.

DAIRY FACTS

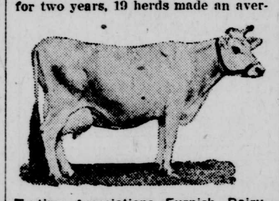
COW-TESTING ASSOCIATIONS

Some Notable Improvement in Milk Production Reported From State of New Hampshire.

(Prepared by the United States Department of Agriculture.)

In seven cow-testing associations in New Hampshire, 216 cows were sold during 12 months, and their places filled by more profitable animals, according to a report made to the dairy division, United States Department of Agriculture. This averages nearly 31 cows for each association. In these New Hampshire associations some notable improvement in production is reported.

In six cow-testing associations in that state, which have been at work for two years, 19 herds made an aver-



Testing Associations Furnish Dairyman With Means of Detecting Unprofitable Producers.

age increase per cow of 763 pounds of milk annually, and an increase of $49.30 in the income over cost of feed. In six associations that have been at work for three years, six herds secured an increase of 866 pounds in the milk yield per cow, and an income over cost of feed of $98.31 more than the herds formerly averaged.

In general, cow-testing association work in New Hampshire is on a good, sound basis, the department says. Association members are studying individual cow records, the ability of purebred bulls to increase production, wise feeding practices, and the proper raising of young stock. The influence of these studies is affecting even dairymen who are not members of the associations.

DEVELOPMENT OF GOOD COWS

Typical Letter From Dairyman Aiding in "Better Sires—Better Stock" Campaign.

(Prepared by the United States Department of Agriculture.)

To illustrate how a good herd of cattle may be developed from a small beginning, the United States Department of Agriculture makes public the following letter from a farmer near Nokesville, Va. This letter is typical of many contributed by practical farmers aiding in the "Better Sires—Better Stock" campaign.

"I am a farmer and dairyman. I milk 75 cows and raise about two calves a year so as to be able to cull my herd two cows a year and replace with young calves.

"I started with common grades of all kinds, but they were good ones. Then I began using my neighbor's purebred bull, and kept the best heifers. But this was slow progress, so I bought six grade Holstein heifers and also a purebred bull. Then I added two purebred cows.

"I now find a ready sale for stock I wish to sell, even for my grades. When one uses a good bull and good cows, well cared for, he does not have any scrub calves."

The letter points out clearly how it is possible for one to develop gradually into a breeder of purebred and high-grade live stock.

SEPARATE STALL FOR COWS

Youngsters Prevented From Crowding and Nursing Each Other's Ears—Expense Is Small.

A Wisconsin farmer, who had a number of calves, thought it might be well to find some means of keeping them separate while feeding. They pushed and pulled and "nursed" each other's ears so that the stronger ones were well fed while the weaker went hungry. Steel stanchions were an expense which he did not feel was justified with his small herd.

At little cost and with small labor he built wooden stalls to which the calves could be tied while feeding. Board partitions separate them more completely from one another, and individual earthenware bowls, which fit into a wooden frame, form separate feeding devices which may be easily renewed and cleaned.

RIGHT SPEED OF SEPARATOR

If Bowl Does Not Travel at Proper Speed Inefficient Skimming Will Be the Result.

The speed at which the cream separator is operated is a matter of importance. If the bowl does not travel at the proper rate of speed, inefficient skimming will be the result, too much butterfat being left in the skim milk. A decrease in the speed of the machine will cause a decrease in the fat test of the cream, while running the machine too fast will cause an increase. Care should be taken to operate the separator at the speed designated by the manufacturer. To be sure that the machine is being run at the correct speed the revolutions of the crank should be timed by a reliable indicator or a watch.

CHARMING, COZY BUNGALOW HOME

Has Five Comfortable Rooms Efficiently Arranged.

IS NOT EXPENSIVE TO BUILD

Exterior Is Distinctive and Very Pleasing—Kitchen So Arranged as to Be a Positive Joy to the Housewife.

By WILLIAM A. RADFORD.

Mr. William A. Radford will answer questions and give advice FREE OF COST on all subjects pertaining to the subject of building, for the readers of this paper. On account of his wide experience as Editor, Author and Manufacturer, he is, without doubt, the highest authority on all these subjects. Address all inquiries to William A. Radford, No. 1827 Prairie avenue, Chicago, Ill., and only enclose two-cent stamp for reply.

When buying or building a home, the average man and wife are interested in two things—price and appearance. They know how many rooms they need—if a small family a small house will serve, and vice versa. And as the tendency has seemed to drift toward the smaller family, the smaller house is more popular. When the bungalow first made its appearance on the western coast it was considered more or less of a freak. But the utility of this small attractive dwelling soon became apparent and the bungalow swept the country by storm. It solved the big problem—charm at a reasonable cost.

Today it is as popular in the Middle West as it is out on the coast and hundreds are being built every year. The housewife who cannot afford servants, and the housewife who cannot get them do not want to assume the drudgery involved in the upkeep of a large house. They turn to the small, compact, cozy bungalow as a solution. And it fills the bill admirably.

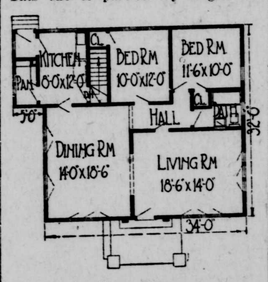
It would be hard to find a more attractive and appealing bungalow home



than the one shown here. It represents a wonderful combination of charm and utility, an attractive exterior and well laid out interior. With these two qualities, a home is satisfactory.

Built of frame, painted an immaculate white, the house has a very hospitable entrance, one that beckons the passer-by. A glass-paneled door opens the way into the house. It is set in an artistic frame, so to speak, with a quaint hood above, electric light, and delightful terrace, enhanced by two ornamental flower urns. The floor of the terrace is concrete and is set about two feet above the walk. Long casement windows in groups of three furnish the light for the large rooms in the front of the dwelling and also add much to the attractiveness of the picture. The front door leads into the living room, one of those large rambling lounging places that have come to mean so much in the happy home.

It is the center of family life and consequently cannot be overlooked. This one is particularly bright and



Floor Plan.

cheerful because of the double set of windows on front and side. It is 18 feet 6 inches by 14 feet, which is unusually large for such a small home.

Through an open doorway of ample width the dining room is seen, dividing the width of the house with the living room. It is also a commodious, spacious room, 18 feet 6 inches by 14 feet, with seven windows in all, two sets on the side and a set of three in front facing the street.

The dining room affords access to the kitchen at the rear through a single door and to a side hall through an open doorway. This hallway, running parallel to the front of the house, leads to the bathroom at the far end of the house and the two bedrooms, very conveniently grouped with regard to the living quarters. Secluded as they are, they afford members of the family a chance to rest even though some activity is going on in the living room. The bedrooms are small, but do not contain any waste space and for that reason are very satisfactory.

Coming to the kitchen, the visitor finds a small room so designed that it will be a positive joy to the housewife who will have to spend much of her time there. It is small, 8 by 12 feet, but equipped with all the necessities of a kitchen, so arranged that they occupy a minimum of space. In a room of this size a refrigerator, sink, range and cupboard can be very easily accommodated. Adjoining the kitchen is a small pantry.

It goes without saying that the builder has accomplished something very much worth while in constructing a home like this. He has killed "two birds with one stone," as the saying goes, by building a pretty and comfortable home at a very reasonable cost. As an economical type of building the bungalow stands in a class by itself. That perhaps accounts for its great popularity which seems to gain impetus as each day passes.

Motor Roads in Cuba.

Cuba is beginning to realize the value of the motor vehicle to supplement transportation by railway and coasting steamers, and it is facilitating motor transport by repairing many of the old military roads and also by the construction of new highways. There are good roads along the coast, but in the interior many of the roads are impassable except by pack mules.

Cuba enforces a strict anti-glare law, and care must be used in the selection of automobile lamps.

Proving Value of Birds.

The passage of the migratory-bird treaty act, it is estimated, has resulted in a total return, in actual food value, to the hunters of the United States, of more than $20,000,000. State officials have notified the biological survey of the United States Department of Agriculture that in Minnesota alone hunters report 2,058,400 ducks killed in 1910. As each of these birds may be considered to have a food value of at least 75 cents, the total return from them in food to this one state was about $1,500,000. If it had been possible to sell these birds, they would have brought twice that amount. The great value of game to the country is thus made evident.

Mr. Einstein's Restraint.

Barney Barnard, the Hebrew comedian, says a co-religionist of his was called on the telephone by the cashier of the bank where he kept his funds, to be informed that his account appeared overdrawn to the extent of $17.40.

"Is that so?" inquired the depositor. "Say, listen, mister, would you look and see how much money of mine was in your bank one month ago today?"

After a brief examination of the books, the cashier reported. "One month ago today, Mr. Einstein, you had a credit of $220."

"So-o-o-!" said Mr. Einstein. "Vell, did I call you up?"—Saturday Evening Post.

Build Up Animal Life.

All encouragement should be given to rational preservation and propagation of game animals in forest regions, says the American Forestry Magazine. The transplanting of large game from one forest to another where it formerly was plentiful but since has been killed out is worthy of universal commendation and the work done by the forest service in this field merits good support.

Seen in the Fire's Blaze.

To see a bright blaze in the distance before retiring is a good omen and foreteils that you will be successful in what you undertake. If it flickers and dies out before you turn your eyes away it signifies that you have lost an excellent opportunity.

SPIDER ADEPT IN AVIATION

Insect Manufactures Its Own Balloon and Navigates the Air in Ease and Safety.

Thousands of years before man made a successful balloon a species of spider common to all parts of America had spun a silken airship and gone riding on the winds at will. When the spider desires to take a ride it sets its spinnerets at work, and out pours the silk in liquid form, hardening with contact with the air. In a few moments a dozen silken streamers, 20 feet long, are waving in the air. The spider faces the wind, crouches down and holds tightly to the post or bush, waiting until its judgment tells it that enough silk has been spun to carry it. Then it gives a quick leap upward, and the wind bears it away. It may rise far above the tree tops or float along six feet above the ground.

The spider can govern its flight by the process of drawing in the streamers when it wishes to descend. The silken cord is rolled into a neat ball and held just above its jaws. As the cords shorten the spider sinks, and just before the ground is reached another silken rope is shot out from the rear to catch on any rough object and serve as an anchor so that it will not be dragged along the ground and injured. Once safe, the spider clips the anchor rope and goes its way contented.

A Little Beauty.

Mr. Johnson, a very polite but absent-minded gentleman, met Mrs. Lovejoy one morning, carrying her pet dog.

"Good morning, Mrs. Lovejoy," said the friend. "What brings you out so early this morning?"

"Oh, I've just been in the photographers with my pet dog, Dido, and we had our portraits taken together Beauty and the beast, you know, Mr. Johnson"—with a saucy little laugh.

"And what a little beauty he is, to be sure," replied Johnson, inadvertently, as he tenderly stroked poor Dido's head and pulled his ears. And then he suddenly remembered and became hot and cold in turn.—Minneapolis Journal.

Has Your Back Given Out?

Are you dragging along with a dull, throbbing backache? Do you feel lame in the morning; suffer sharp twinges at every sudden move? Then there's something wrong! You may never have suspected your kidneys, yet often it's the kidneys that are at fault. You may have headaches and dizzy spells, too. Use *Doan's Kidney Pills*. They have helped thousands and should help you. *Ask your neighbor!*

A Virginia Case



Mrs. F. M. Enewisle, 1007 Gibbon St., Alexandria, Va., says: "There was a sore and lame feeling and a heavy, bearing-down ache in my back all the time. My head felt as though someone were pounding it and I became very nervous. I had dizzy spells, too. The way my kidneys acted bothered me a lot. By the time I had finished the second box of Doan's Kidney Pills I was entirely cured."

Get Doan's at Any Store, 60c a Box

DOAN'S KIDNEY PILLS

FOSTER-MILBURN CO., BUFFALO, N. Y.

80 Years Old —Was Sick

Now Feels Young After Taking Eatonic for Sour Stomach

"I had sour stomach ever since I had the grip and it bothered me badly Have taken Eatonic only a week and am much better. Am 80 years old," says Mrs. John Hill.

Eatonic quickly relieves sour stomach, indigestion, heartburn, bloating and distress after eating because it takes up and carries out the excess acidity and gases which cause most stomach ailments. If you have "tried everything" and still suffer, do not give up hope. Eatonic has brought relief to tens of thousands like you. A big box costs but a trifle with your druggist's guarantee.

When Grandmother Was a Girl



Hoop skirts were worn by those who first asked the druggist for, and insisted on having the genuine Golden Medical Discovery put up by Dr. Pierce over 50 years ago. Dress has changed very much since then! But Dr. Pierce's medicines contain the same dependable ingredients. They are standard today just as they were over fifty years ago. Nearly a million bottles were sold last year. Send Dr. Pierce's Invalids' Hotel, Buffalo, N. Y., ten cents for trial package tablets.

Women Made Young

Bright eyes, a clear skin and a body full of youth and health may be yours if you will keep your system in order by regularly taking

GOLD MEDAL HAARLEM OIL CAPSULES

The world's standard remedy for kidney, liver, bladder and uric acid troubles, the enemies of life and looks. In use since 1696. All druggists, three sizes.

Look for the name Gold Medal on every box and accept no imitation

No Doubt About His Love.

Bess—"Are you quite sure he loves you?" June—"Love me? Why, he went down on his knees in damp moss with new white flannel trousers on to propose to me."—Boston Globe.

When you have decided that the worms or Tapeworm must be exterminated, get "Dead Shot"—Dr. Peery's Vermifuge. One dose will clean them all out.—Adv.

Leading Industries.

According to the latest available statistics the leading industries of the United States are as follows: 1, food; 2, textiles; 3, iron and steel; 4, lumber; 5, leather; 6, paper and printing.

Good health cannot be maintained where there is a constipated habit. Garfield Tea overcomes constipation.—Adv.

True to Form.

Mother—Well, dear, has Jack kissed you under the mistletoe?

Small Daughter (demurely)—Yes, mother.

Mother—And did you enjoy it?

Small Daughter—Yes, thank you, mother, but (very demurely) I struggled.—London Punch.

Flavor!

No cigarette has the same delicious flavor as Lucky Strike. Because—

It's toasted

LUCKY STRIKE CIGARETTE

The American Tobacco Co.

W. N. U., BALTIMORE, NO. 9-1921.

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