course of action. DDRESS OF HON. D. F. HOUS-TON, SECRETARY OF AGRI-CULTURE.

(Contiued from Page 5.)

governmental principle. mental uch aid or subsidy is neither ne-There has sary nor desirable. too much misconception as to it is meant by rural credits and o the practice and results abroad. re has been so much talk about eral legislation on rural credits many uninformed people get impression that it is proposed rely to give farmers Federal oney and to give it to them at wer rates than economic condias could possibly justify, and evto give it to those who have no isis of security. In the minds of any people the term rural credits as become synonymous with gov-nmental financial aid. This noon is highly fallacious and is demental to the working out of any tional scheme. It is likewise asthat cooperation abroad remed ilts in cheap and easy credit, that , credit at interest far below the ate prevailing in industrial circles d extended upon character alone. here is no foundation for this view. ere is no cooperation in Europe hich does not demand of borrowers s safe security as is exacted by h ordinary institution, and interest ates are never below those which usiness securities justify, except rare instances where a State has vanced public funds to be distri-ted in cheap loans. Where landortgage institutions or cooperare credit societies have become firm established abroad there has been marked change in the rate of inrest at which farmers secure monbut this results simply from the jection of business principles and om the advantages of reliable coeration. There is enough good cooperation to assure its spread-

There are enough posible adntages to demand the most sympaetic consideration of reasonable ans by Federal and State authoris and the enactment of proper islation at the earliest possible oment.

The fact that there has been ate financial aid in Europe by no ans furnished a precedent or arment for such aid in the United Intervention abroad, Mr. ates. errick correctly asserts, was moed by the old feudel notions and the condition of serfdom or seserfdom 'out of which the peast farmers had to be brought, and t of which they have not been tirely drawn. Paternalism has tirely drawn. n the relation of the State to the dividual abroad. The individual not had the requisite initiative, id it is not complimentary to the nerican farmer to compare him ith the average European peasant. he American farmers are better in than the European peasantry. arthermore, they are the most inpendent and self-reliant part of e country's population. Special gislation ,either for individuals or Asses, would now be revolutionary d also would deaden the spirit of ose who should rely upon it. It was not seem likely that they will mand privileges and special favors vised for conditions which have no arallel in this country and which ould do them in the long run more m than good. It is likewise true that notwith-

anding the wide prevalence of tanding the wide prevalence of pecial rural financial establishments broad the great mass of farm high and farm rational life, the Federal Depart-national life, the Federal Depart

course of action. The Department of Agriculture is taking a deep in-terest in this matter. It has made terest in this matter. It has made it a special part of its duty to investigate farm credit in every section of the Union, and to place itself in position not only to offer suggestions for land-mortgage banking legislation, but also as to uniform State legislation permitting and governing all forms of cooperative effort, and particularly cooper-ation in the field of rural credit.

This whole subject is now in the hands of a joint committee of the Senate and of the House, and I have little doubt that the next Congress will be successful in proposing a sat-

isfactory scheme. I have trespassed already undluy on your time. I regret that I am compelled to deny myself the pleasure of reviewing before you the extent and variety of the activities of the Federal government' through its Department of Agriculture, and of almost a certainty of a crop every the States and the Federal Govern-year.

ment through the land grant colleges in behalf of a better agriculture, a juster distribution, and a more at-Today the tractive rural life. State and nation together are spending perhaps more than sixty mil-lions of dollars to foster agriculture and a better rural life. No other in its provision for this great national industry. Through every promising approach the two great agencies are aiming to increase productions, to make agriculture more profitable, and rural life more attractive. I can not, however, forego the duty of directing attention to the results of agricultural science and last only a few seasons. and practice, and to induce the average farmer to do what the best farmer practices. I refer to the

Smith-Lever educational extension act, under the terms of which within a few years the nation will be expending, without considering lo-cal funds and without further legis-is as follows: First year: I

this and in other fields, and instead of trying to reach the farmer through bulletins or the newspapers alone, this large effort will be made to reach him by personal contract. The nation is taking the rural popu-lation to school. It has discovered that it can furnish educational aid to the man and the woman busily engaged about their daily tasks who have not had the benefits of the training of the colleges and can not spare the time to attend college. It is the greatest single educational undertaking on the part of any na-tion, and in my judgment, is the most significant and far reaching. For many reasons I am optimistic about the future of American agriculture. More helpful agencies are operating on rural life today than ever before in the history of the world, and through his own intelligent effort with the aid of the machinery prvided by the State and the ration, the American farmer will more than hold his own and need not fear competition. He will inevitably control the home market except for things which can not or should not be produced here, and will be called upon increasingly to supply the needs of foreign nations. We shall not, however, be blinded by over confidence and misled by the cries and alarm of the demago-

broad the great mass of which oans are made by institutions which are developed and controlled by cooperate in its proper sphere with

TRAINING AND PRUNING THE GRAPE WILL BRING PROFITABLE RESULTS

Grape is One of Hardiest and Surest Fruits, But Will Not

Develop Well Without Proper Care-Very Important

to Train Vines to Some Definite Form.

Unquestionably, the grape is one of the surest fruits that can be grown in South Carolina. Practically all the standard varieties will succeed. Nor is the fruit often injured by late frost. in general, it is safe to say that when vines are properly cared for there is

But although the grape will produce some fruit under almost any treatment, yet results that are really worth having cannot be obtained without proper care of the vines. The old practice of planting a vine just anywhere and letting it grow at will is ennation begins to compete with ours tirely wrong. Under such conditions, vines become thick and fall on the ground, there is a tendency to overproduction of fruit, to small bunches, and inferior berries, and at about the time the grapes begin to color up, they begin to rot. As a result, when the fruit should be ready for use, one-half the most recent act for bringing or two thirds of it is worthless. Be-home to the farmers of the nation sides, vines handled thus are weak

> Perhaps the worst mistake in grape culture is failure to prune properly. It is very important that the vines be trained to some definite form. The easiest method of training the grape

First year: Plant one-year-old vines. lation, approximately nine millions As soon as they have been put out, ing necessary this year will consist of implements is made with red lead and of dollars. Through the terms of cut them back to three buds, as shown removing all canes except four, one linseed oil. this act the State and the nation at (a) in illustration. Should all three going each way from an old vine on The use of are cooperating as they should in of these grow, rub one off, leaving the both wires. These four canes are comstrongest two to grow and form the monly called "arms." They form the and farmers owe it to themselves to frame of the vine. During the first frame on which the fruiting canes will season's growth the young shoots be produced. should be tied to a stake, as shown at (b) in illustration. This is to pro- sist of renewing the four "arms" each but there is probably no more practiduce healthy canes. Should they be year when suitable canes of the preallowed to run on the ground, they will ceding season's growth can be found be weak and more liable to injury.

be prepared. Set posts 20 feet apart back to two or three buds. These painting them. along each row of grapes. This will buds will throw out shoots the next give space for two vines between each season on which the fruit will be two posts. The posts, when set, should borne. It is always best to renew the show four and one-half feet above the arms each year if possible. When this ground. The end posts should be set method is followed, each vine will proat least three feet in the ground and duce from 75 to 100 bunches of grapes well braced to prevent giving when the vines are stretched. The other vines are also kept thinned out, so wires on which to train the vines. The cessfully. lower wire is two feet above ground young canes should be taken off the ask for Bulletin No. 15, "Fruit Culture

stakes, one cut off at the height of the for South Carolina. first wire and tied, and the other allowed to extend to the top wire, as shown at (c).

WHY CROSS BREEDING IS NOT ADVISABLE

Farmers sometimes get the mistak- | prices. If for no other reason than en idea that cross breeding will im- this, a farmer should hestiate to cross

DO NOT NEGLECT TOOLS

Farmers Suffer Large Losses by Failure to Care for Implements That Are Not in Use.

The farmer who puts away his farm machinery without oiling and cleaning it is certain to lose in the deterioration of the machinery many times what the time to care for it would have been worth. Failure to take care of farm machinery is a source of large loss to the American farmer annually. Most farmers realize that they would save money by taking good care of their machines, but neglect to do so, either through carelessness or indifference. The most important step toward having efficient machinery is keeping it in good repair. In spare time, each machine should be carefully inspected and all missing, broken or overworn parts noted. Write the names and numbers of missing parts on tags and fasten these tags to the machine.

All machines should have a general inspection at least once a year. A rainy day in late fall is very good for this purpose.

Exposure to weather injures both wooden and metal parts of machines and a machinery shed should by all means be part of the farm equipment. Every machine should be clean-

Painting aids greatly in improving the appearance and prolonging the life of machines. It protects both wood and metal from the weather. Paint be thrown out from the two that were should be used freely when needed. eft the preceding season. The prun- One of the best paints for all farm

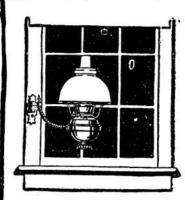
> The use of good farm implements is increasing rapidly in South Carolina be more careful of their tools. In the

year that has gone, they have learned some important lessons in economy. cal way in which a farmer can economize than by taking the proper care to take their places. If this cannot of his farm implements-repairing them, oiling them, housing them, and

> SIDNEY S. RITTENBERG. Agricultural Publicist,

Clemson Agricultural College.

Temperature for Plants and Humans. What does a plant need in the way of air and heat? By this, of course house plants, not greenhouse varieties, are meant. The common run of house plants-geraniums, ferns, palms, etc. -ask only for a temperature of 70 by day and 60 by night. This is a very suitable temperature for human be ings, too. There must be fresh air for a plant every day, although they cannot stand a freezing draft any better than the housewife can. A door or window as far away from them as possible should be opened and the air be allowed to change gradually. A light cloth thrown over them will enable them to stand a good deal of cold air coming in. Forty-five Fahrenneit will not injure most plants.



The RAYO LAMP SAVES TROUBLE

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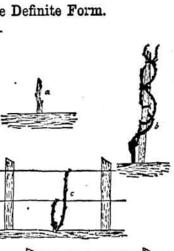
MUTUAL

Third year: Numerous canes will

After this year the pruning will con-Second year: A trellis must now be done, all the canes should be cut

posts should be set at least two feet | that the sun can strike all portions deep. To the posts are nailed two and that spraying can be done suc-For further information on the and the upper wire two feet above the grape, farmers should write to Sidney lower. These preparations made, the S. Rittenberg, Clemson College, and

> C. F. NIVEN, Ausistant in Horticulture, Clemson Agricultural College.



Pruning the grape. (a) Young vine transplanted and headed back to ed, oiled, and housed after it has been three buds. (b) First year's growth, used. two canes allowed to grow. (c) First season's pruning. (d) Second and all subsequent seasons' pruning

rivate initiative, instead of by those hich are endowed or guaranteed the State. The total farm-mortge indebtedness of Germany is timated at two million. Of this m 850 millions is lent by savings nks. 750 millions by cooperative ociations who receive no financial d from the State and whose oblitions are not carried by the State, hd 170 millions by joint stock anks. This leaves a hundred milions, or five per cent only, placed y institutions especially aided by he State.

In this country, no matter what legislation is had at the hands of the State or Federal government much of the lending on farm securities will be done by private es-tablishments. The Department tablishments. through investigations has ascertained that 930 millions of dollars are lent on farm mortgages in the United States by savings banks, trust companies, and State and private banks, and that insurance companies have invested at least 600 millions in

mortgage loans. That more d be invested and at more favor-That more rates if reliable machinery were vised for inspecting and producsafe rural securities and the siness were conducted under effient Governmental supervision I ave no doubt. Hence, the necesity for legislation both in the field of land-mortgage banking and of loal cooperative credit unions just as oon as the Federal government and States can determine the wise



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its great allies constituted by the States and will labor zealously for the betterment of the condition of the mases.

Origin of Knitting.

Knitting is a Scotch invention of the fifteenth century, and Scotch knitted stockings soon found their way to France. A guild of stocking knitters, too, was soon formed, with St. Fiacre as their patron saint. Hand knitting was not long left without machinery as a rival, for it was as long ago as 1589 that William Lee invented the knitting frame.

Crigin of Word "Postal."

From the Latin word "positus," meaning stationed, this method of communication by means of relays placed at different points along the road came to be known as a post system and eventually as the postal system of today.

When Elsie Gces Shopping.

Elsie has been to the city on her first shopping expedition, and at the first store had sorrowtully emptied the contents of her small purse. Coming home on the train, her father slyly slipped a bright penny into the emply purse, with an eye to making his daughter's heart rejoice. Then behind the shelter of his paper he watched his daughter until she state. chanced to open the pocketbook. Deeply perplexed, the generous parent drew a sobbing little daughter into the shelter of his arms, until at

length she howled heartbrokeniy: 'Fy, oh, iy. didn't i pend it!"

The Pipe of War.

There is hardly a country in the world where the pipe is not smoked in one form or another. In many villages of the northwest provinces of India are to be found public hookahs for the use and comfort of travelers Everyope has heard of the North American's pipe of peace. General Blucher's pipe smoking was of a very different character. He appointed a man to the post of "pipe master," whose duty it was to fill a long clay pipe and hand it to the general before every engagement. Blucher would pipe, and gallop to the firing line.

cross breeding has many disadvan- ference between the purebred and the tages and farmers are strongly advis- crossbred. The purebred is the offed not to attempt it. It has at times spring of two purebred parents of the been used with success in the hands same breed. The crossbred is the of breeders of long experience, but offspring of two purebred parents of for the inexperienced breeder it is a different breeds. A crossbred can drop of oxalic acid to 20 drops of wamost dangerous practice.

Cross breeding is the mating of two purebred animals of different breeds; for example, a purebred Hereford bull with a purebred. Angus cow, or a purebred Berkshire boar with a purebred Duroc-Jersey sow. It should be clearly distinguished from grading, which means the mating of a purebred with a scrub or an animal of very little pure blood, and which can be done with perfect safety and is urged upon farmers.

One of the principles upon which livestock breeding is based is that like tends to beget like. When two purebreds of the same breed are mated, we expect the offspring to be like its parents, because there is, behind each parent, a long line of pure few years he can make his herd as blood. When two purebreds of different breeds are mated (crossbreeding), there at once takes place a battle of breeds and the offspring will be like that parent whose blood is strongest. When, therefore, two old breeds, as Tamworth and Berkshire, or Jersey and Holstein, are mated, there is a bitter conflict between bloods and influences that have required centuries to reach their present est efforts in a campaign for increas-

In cross breeding the first cross is sometimes good, but after that such breeding is very uncertain, because the nature of the offspring will depend upon whichever of its bloods gets the mastery. Moreover, there is a danger that sometimes the good blood in each parent will balance that

in the other, which will cause an outcropping of some bad characters that had been held in check ever since the breeds began.

sults, a crossbred sire should never be possible out of his manure. used nor any crossbred females kept for breeding, except where a purebred is at the head of the herd. Be- Southern agriculture is lack of humus cause breeders understand this, a in the soil. The easiest and most crossbred can never bring more on economical way to get humus in the the market than it is worth for meat soil is by growing and turning winter or work, and the farmer who breeds legumes. This also enables a farmer such animals loses his chance of sell- to get nitrogen from the air and cut then enjoy a few puffs, give back the ing his best product at purebred his fertilizer bills.

prove their stock. On the contrary, breed. Keep in mind clearly never be registered, even if each of its parents was a breed champion. If cross breeding is inadvisable,

however, grading is advisable and is recognized as the quickest economical way of building up a herd. Grading is the mating of a purebred with a scrub or with a grade. Generally the purebred used is the sire and the scrub or grade is the dam. Grading is perfectly safe because all the power is on one side and the results can be predicted. A purebred Angus bull mated with scrub cows will produce calves of hail. which more than eighty per cent are

pure black and hornless, such is the power of pure blood over mixed blood. There is no better way for the young breeder to begin than with a grade herd and a purebred sire. In a profitable as purebreds and will have learned how to take care of a purebred. But let him avoid cross breed-J. M. BURGESS. ing.

Associate Professor of Dairying, Clemson Agricultural College.

Last year the extension division of Clemson College put forth its greating the acreage of wheat and oats. This year it is again urging the sowing of wheat and oats, but has added livestock to its propaganda. "Take the second step-livestock."

Manure is subject to heavy losses from several sources. For instance, many farmers lose practically all their liquid manure, yet this contains more valuable plant food than the solid. There are a number of ways to save stable manure and every farmer should exert himself to get the most

The most serious limiting factor in

Perspiration Stains. Perspiration stains may be easily removed by a solution of oxalic acid and water. Use a proportion of one ter. Sponge the stains carefully with

Hail Kills Seagulls. In a thunderstorm at Teesmouth, England, it is recorded, so much hail of such large size fell that the beach

this and hang the dress to dry in

the air.

was strewn with the dead bodies of gulls and other sea birds. On threequarters of a mile of shore, 300 dead gulls were counted, all killed by the

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Abbeville, S. C., June 1, 1915.

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