provided, and strong corrals with substantial wind breaks and sheds.

If you can't secure such hay as you prefer, secure the best you can, and if you can't have cemented rock walls to break the force of north winds from your sheep, use boards or pickets, anything else that you have, and make hay sheds if you can't afford to do more.—*The Texas Wool Grower.*

Agriculture.

NEW VARIETIES OF POTATOES.

Says a correspondent of the *Iowa Homestead*.—"The very earliest variety, Alpha; the largest early variety—first, Crawford Seedling; second, Early Ohio; and third, Beauty of Hebron; the best medium early kinds—first, Belle; second, Whipple Seedling; third, Laplume Triumph; fourth, White Star; fifth, White Elephant; and sixth, Mammoth Pearl; the best baking potato, Burbank Seedling; the best keeping late potatoes—first, Almo; second, Belle; third, Star; and fourth, Elephant and Whipple; the largest varieties, Queen of the Valley, American Giant, Dunmore, Belle, White Elephant, Mammoth Pearl, Late Rose and Almo, in the order named, the most vigorous growth of late potatoes, White Elephant, Almo, Mammoth Pearl, Laplume Triumph, Dunmore and Star; nearest perfection in form and appearance, Pride of America, Silverskin, Perfection Belle, White Star and Late Snowflake; the most promising new kinds, Wall's Orange and Clark's No. 1. Three years careful trial of the above varities forms the basis for the above assertions. There may be other new varieties equal to those named in the above list. We do not find them so, although there are forty kinds of the last new best growing on our farm.

ROTATION OF CROPS.

Among the essentials requisite to maintain a high degree of success in cultivation, a proper system of rotative cropping occupies a prominent place. The advantages of rotation in farm crops are well known; yet the practice is very common to grow the same kind of crops for years in the same spot of ground.

It is, perhaps, within the bounds of possibility to pursue this course successfully; but to do so will require an annual return to the soil in some form of the several ingredients extracted by the plants. Our knowledge of the application of science will not warrant much faith in this direction, even if chemists were decided to exact respective amounts of the ingredients used by various crops.

But allowing it to be practically attainable, and looking at it in the light of mere economy, a change of crop is every way desirable, since by proper care two dissimilar crops may be produced on the same ground in the same season; and further, the operations necessary for the culture of one kind of crop are of a nature to form a good preparation for the succeeding one. Physiologists do not altogether coincide in their opinions with regard to the principles upon which the beneficial results attending systematic change of crops are based. Some support what may be termed the repletion or excretory theory, which proceeds on the supposition that the roots of all plants during their growth give out certain substances peculiar to themselves, which, in time, impregnate the soil to such an extent as to render it unfit for the growth of that particular plant, but has no deleterious effect upon the growth of a different family of plants, if, indeed, they are not rather to be considered as capable of promoting growth and acting as stimulants to such.

It is a well ascertained fact that certain, if not all, plants do impart to the soil, through their roots, a portion of their juices. The soil surrounding the roots of the oak tree has been found impregnated with tannin.

The roots of the spurge laurel impart an acid, resinous matter. The poppy exudes a substance analogous to opium; the root of any plant growing in water will soon render it turbid, but the quantity of such matters hitherto detected has not been considered sufficiently important to account for the remarkably beneficial results which have followed a rotative system of cropping.

The above theory has been supported by very high authority, but it seems to be giving way to the following, viz: that although plants are made up of the same primary elements, yet different species require them in widely varying proportions, so that each plant has a characteristic formation peculiar to itself.

It therefore follows that if there is a lack in the supply of these peculiar ingredients of plant food, the plant will not be maintained in healthy growth. From this it appears that the reason why a crop, if constantly grown upon the same spot of ground, shows a yearly loss in productiveness does not arise from a repletion of any substance, but rather from exhaustion

In a practical view, it is evident from either of the above theories that a change of crop is requisite to successful cultivation.

In cultivating garden vegetables, great facilities are presented for a frequent change of crop, and there is also a wide field for experiment in order to ascertain the kinds best suited to succeed one another in a regular system. For instance, it has been asserted that melons will produce best when grown on soil previously occupied by tomatoes.

In general, long, tuberous, rooting plants, as carrots, beets, parsnips, &c., should be followed by those that root near the surface; plants that are cultivated for their seeds should be followed by those grown for their foliage. The seeds of all plants contain a larger amount of mineral ingredients than their leaves, so that plants grown for their seeds will exhaust the inorganic matter of the soil to a greater degree than will be effected by plants grown only for the use of their leaves.

Various courses or systems of rotation in farm crops are practised. It is, however, possible that these systems may be improved upon, and close observation may show that the best results from one kind of crop depends somewhat upon the one that preceded it.

Horticulture.

WHITE GRAPES FOR THE MILLION.

Josiah Slater, well and favorably known to pomologists, has a spicy article in the *Gardener's Monthly* on the new white grapes, from which we glean the following points regarding the Pocklington, which is attracting general attention:

I have been familiar with the Pocklington for five years. The first two years of my acquaintance with it the original vine was so over-cropped as to retard its ripening and spoil its quality. It has, however, improved in quality every season since. This last year, 1880, the Pocklington was fit for market in Monroe Co., N. Y., about September 6th, but it is much better, with little or no pulp and with a honeyed sweetness by 15th or 20th of September, and fully ten days earlier than the Concord on the same grounds. It hangs well on the vines till destroyed by frost. The Pocklington is a seedling of the Concord, just as strong and vigorous a grower, fully as hardy to withstand the winter's cold and summer's fluctuations in temperature, to resist mildew as its parent, the Concord. Last fall I kept a bunch each of Lady Washington, Niagara and Pocklington till near the middle of December, on a plate in a close room. To my surprise, the Lady Washington, although the thinnest skin, was apparently the best keeper. I have no doubt, with a little care, either of these grapes may be kept to January both in good condition. To my taste the Lady Washington is the best as to quality. The Pocklington is the next best, and while we are in doubt as to whether we can grow the Lady Washington successfully, it being a hybrid, I think there is no doubt whatever that the Pocklington will thrive and do well over a wider extent of country than any other good grape, not excepting the Concord; for where the Concord will do well, I believe the Pocklington will do better because of its earliness.

While I cannot agree with my friends who think the Pocklington grape better in quality than the best hothouse grapes, I do think it will prove the best and most valuable purely American Grape we may have for years. And on purely American and of the Labrusca species, I think we shall have to rely for our crops of market and wine grapes in most localities of this latitude east of the Rocky Mountains.

I consider the Pocklington grape, the *white* "grape for the million." We have had scores of white grapes introduced, tested, proved wanting, and discarded within the last thirty years but the Pocklington has come to stay. It is of the largest size both in bunch and berry and the most successful white grape in taking premiums at fairs. It is seen above all others, it attracts more attention, and recommends itself—the grape men cannot let it alone.

FLOWERS IN WINTER.

BY J. H. PEARSON.

It seems to me that the study of flowers is a pleasant one, and with the return of winter will come a desire to have a few flowers in the window; something cheerful to look at, while all without is cold and dreary. To help the readers of this paper in the pleasing art of window-gardening, and to guide them in selections of plants easily grown, I make these suggestions. Select an east or south window, and if these cannot be had, then a west window.

During the night the temperature should not fall below 50°, nor rise above 60 or 70° during the day.

Most rooms are too dry for plants as well as people, and it is well for the health of both to have a vessel of water boiling in the room constantly.

Plants must have air and light at every opportunity, but be careful not to let a draught of cold air strike the plants.

The leaves of plants need frequent washing to remove all dust, as the leaves are the lungs of the plant. A good way to do this is, after your week's wash, to immerse the plants, pots and all, in a tub of suds, and allow them to remain under water for a few minutes, then rinse with clean, tepid water. The soapy water will destroy many insects, and what is taken up by the earth will invigorate the plant to a healthy growth. The pots should be well drained. Never allow water to stand in the saucers, except in case of water plants.

Never attempt to grow too many plants—more than you have room for or time to properly attend.

There are many plants that are suitable for window-gardening, but space will allow me to name but few, with brief hints on their treatment.

Hyacinths, tulips, and crocus make beautiful plants for this purpose, grown either in pots of soil or glasses water. They should be set, after potting for a few weeks, in a dark closet for two weeks, for the roots to grow before being placed in the window. Ivy may be grown in any part of the room. If the vines are long, set the pots on the floor and train them up the sides of the window or around picture frames. They need an abundance of water, but none must be left standing about the roots or they will rot. Maderia vine and cobæa scandens are good climbers and will bear almost any kind of treatment. There are some annuals, such as mignonette, alysum, browalia, ageratum, petunia, balsam, and morning glory, can all be grown and bloomed in winter from seed sown now. To those who have no seed I will give them enough for a letter stamp for each variety. The seed should be sown in shallow boxes filled with soil. Be careful not to keep the soil too wet or to cover the tiny seeds to deep. One-fourth of an inch is plenty and less will do. The growth of the seeds will be greatly hastened by placing a warm brick under the box each morning and evening. Besides these above named plants, I would recommend geraniums, stevias, callas, fuchsias, begonias, carnations, abutilons, and a few of the cactus. I do not mean that you should try to grow all of them, but select from the list just such as your fancy dictates. Please to try and make your home a garden of flowers, where joy shall bloom through childhood's hours, and fill young lives with sweetness. I shall be pleased to answer all questions relating to flowers that the readers of this paper may ask me, and hope thereby to be able to assist in a good cause.—*National Farmer.*

See our Premium List on page 137.

HORTICULTURAL NOTES.—A vineyard of 50 acres in New Jersey, in 1880, marketed 80 tons of grapes, and in 1881 a larger amount. Estimating the grapes to be worth three cents per pound at the vineyard, the income from the 150,000 pounds would be $4,500, or $96 per acre, with less than half the labor required to grow an acre of wheat or corn.

One of our Kentucky papers marvels over the wonderful news that genuine negro women never kiss each other. It goes back into the days of antiquity and can find no instance of the kind on record.

Nonsense is to sense as shade to light—it heightens effect.