Gelatin for Thinner Fabrics

Thinner fabrics such as voiles, batistes, and organdies need a certain amount of crisp springiness which is obtained when gelatin or gelatin in combination with alum or glycerin is employed. A stock solution of gelatin can be made by heating together 1 pint of water and 1 ounce of gelatin until the gelatin has completely dissolved. A little borax helps to preserve it, and the mixture can be kept and used on several occasions. One part of the gelatin stock diluted with 5 parts of water makes a very good general proportion for thin garments. A 6 per cent alum solution preceding the gelatin treatment gives a bit more permanent finish to the fabric. The addition of a trace of glycerin to the solution causes the finish to be less harsh. Material as heavy and of the nature of cotton suiting requires very little body, but softening agents are necessary to give the requisite feel. Many fabrics, of course, lose much of their original appearance through shrinkage and consequently can never be completely restored by household methods.

Aside from the sizing ingredients added some attention should be given to the padding of the ironing surface and to the temperature and pressure used in ironing. Many of the finer fabrics look pulled and the threads mashed because of too great pressure and usually too high a temperature. Better results are obtained if such fabrics can be stretched, leaving the threads firm and round. It is a difficult problem to restore the body to a fabric without making it boardy or the sheen without flattening or pulling the fibers. These many individual phases of the big problem of finish restoration offer openings for investigations which must be undertaken and solved before the home laundering process can be entirely successful.

ESTHER C. PETERSON.

COTTON Grower Often Finds Larger Outlay Pays in Bigger Yield

One of the easiest and least expensive practices for improving cotton yields is the growing of legumes as catch crops, winter-cover crops, or as part of the regular cropping system. They can be used as seed or used for hay, for grazing, for market, or for turning under. Cowpeas and velvet beans can be used or other legumes, like soy beans, peanuts, vetches, bur clover, Lespedeza, and red, crimson, alsike, and sweet clovers, and Canada field peas.

These crops add to the soil differing quantities of nitrogen and vegetable matter which tend to increase its crop-producing power.

To get the full benefit from growing these soil-improving crops, it is necessary that they be alternated with cotton and the other crops of the system, or shifted from field to field periodically, in a somewhat definite though elastic method of rotation.

The Mississippi experiment station by planting cotton after corn and soy beans on four fields of delta land in 1924, 1925, and 1926 got an average yield of seed cotton that was 24.7 per cent greater than the yield from cotton following corn. (Mississippi Experiment Station Circular 71.)

The United States Bureau of Soils, in an experiment in eastern South Carolina covering six years, on fine sandy loam got an average yield from cotton following cowpeas that was 23 per cent greater

than the yield from cotton following cotton. (United States Department of Agriculture Bulletin 1377.)

The cropping system of the farm, however, should not be planned with the rotation as the main object or end to be attained. Such attempts have produced unprofitable systems. The more successful cotton farmers, in planning their cropping systems to meet farm needs and physical and economic conditions in their respective areas and localities, are devoting from a small percentage up to even two-thirds of their crop land to cotton. Rotation is then used so far as practicable as a means or method of influencing cotton yields.

The use of commercial fertilizers to maintain and increase cotton yields is rather generally practiced, particularly in the eastern humid sections of the Cotton Belt. Unfortunately in many cases apparently too little is used, or it is used without enough skill to secure the best results.

Fertilizer's Effect in Georgia

A study was made of the effect of fertilizers used in varying quantities on cotton on 91 farms in Sumter County, Ga., in 1924. Increasing the quantity of mixed fertilizer per acre above 150 pounds

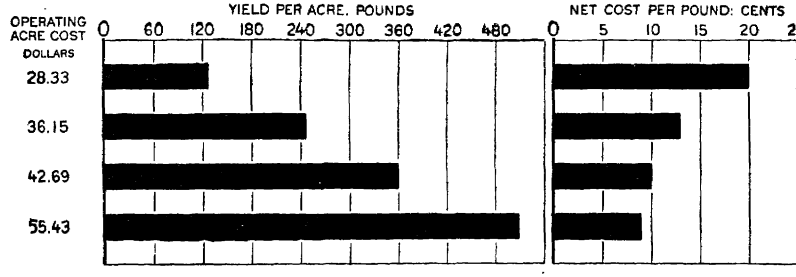

FIG. 59.—Increased expenditure per acre on these farms brought increased yield per acre and decreased cost per pound

brought increasing yields, but on the average if an application of less than 300 pounds was used to an acre the additional yields were not of much more value than the cost of the additional fertilizer above 150 pounds. Maximum returns from cotton, under average conditions, were not obtained when less than 450 to 500 pounds of mixed fertilizer was used per acre.

As quantities of nitrate of soda were increased over 40 pounds per acre the additional yields increased rapidly so that when 120 pounds were used the value of the additional yields was over $10 and the cost of the nitrate used was only $3.60.

With conditions as they prevailed in 1924 and with cotton at 21 cents a pound, mixed fertilizer at $27 per ton, and nitrate of soda at $60 per ton, it would have been profitable for most farmers in the community to have increased the average applications of mixed fertilizer and nitrate of soda.

The thrifty cotton farmer finds that it pays to use approved practices to protect his cotton from insect damage, especially from boll-weevil damage, particularly if he has made other expenditures to increase yields. In Sumter County, Ga., in 1924 the most profitable applications of calcium arsenate for poisoning the boll weevil were from 25 to 30 pounds per acre put on in four to five applications.

Other factors that may influence cotton yields which can merely be mentioned here are methods of tillage, varieties, seed selection, care of the seed, methods of planting, time and method of harvesting, etc.

Economy of Increased Expenditure

Factors and practices designed to maintain or to increase cotton yields necessitate increases in expenditures per acre on the crop. But increased expenditures per acre, if wisely applied, tend not only to increase the yield in weight but to increase profits by lowering the cost per pound.

Figure 59 shows the average effect of increase in expenditures per acre on the yield of lint cotton per acre and on the cost per pound, on 401 farms scattered throughout the Cotton Belt, in 1926. (See Crops and Markets, U. S. Department of Agriculture, June, 1927.)

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COTTON Harvesting by Newer Methods Saves Much Labor

The cotton crop, until recent years, has been harvested exclusively by hand picking. In about 1900, growers in certain parts of Texas and Oklahoma, where a considerable part of the crop fails to mature in some years, began the practice of gathering by snapping or pulling immature bolls or bollies. In the more subhumid parts of Texas and Oklahoma, where cotton has but recently become of importance, a considerable part of the crop usually fails to open properly and in some years much of the crop which has fully opened can be picked after a killing frost only with difficulty, as the stems by which the bolls are attached to the plant are so brittle that they fall from the plant at a touch. Growers were not long in adopting the method of harvesting by snapping or pulling that part of the crop which had opened as well as the bollies that remained in the field after a killing frost.

The harvesting operation is of particular importance to western growers. In these areas conditions are ideal for the use of large machines and the farm family can raise more cotton up to harvesting than they can pick or snap. For this reason much of the cotton produced in these areas has been harvested by hired labor.

In the fall of 1926 these western cotton growers faced a new harvesting problem. A large crop had been produced, but weather conditions were extremely unfavorable for harvesting during the early fall. Principally because of the large cotton crop in the United States, prices declined severely and many a grower found that his crop would hardly bring enough to pay usual harvesting and ginning expenses. Then, too, not enough labor was available to harvest the big crop by the usual harvesting methods. Under these conditions the cotton sled, which had been used only to a limited extent in preceding years, came into prominence for harvesting the crop.

Requirements for picking an acre of cotton yielding 160 pounds of lint are estimated to amount to 40 or 50 per cent of the total labor required for producing cotton in western Texas and Oklahoma. Growers who harvested their crop by snapping instead of picking reduced their harvest labor requirements about 35 per cent as compared to a reduction of about 90 per cent when the sled was used. In the eastern Cotton Belt harvest labor requirements usually amount