

There must exist a law that governed the formation of chromophoric groups but so far it had not been definitely established, though some progress had been made towards doing so. Our knowledge of the chemical causes of the physical properties of coloring matters was continuously developing, and quite lately some definite views had been formed about the connection of the chemical constitution of the aromatic bodies with that form of selective absorption of light brown as fluorescence.

Much work had been done on the constitution of the azo colors, the introduction of which was the direct result of early efforts to conduct the search for new coloring matters on definite scientific principles. The number of the dyestuffs of this class that might be prepared was extraordinary, and it had been computed that 3,159,000 different ones were at present easily accessible. Of these at least 25,000 formed the subject of patents in Germany and other countries, while over 500 were manufactured on the larger scale.

Azo dyestuffs could be produced at will to dye wool or silk or cotton, to dye slowly or quickly, and to stand soap, or acid, or alkali; and this possibility of adjusting their properties with almost mechanical precision had been the cause of the greatest successes of the color industry. But while this field bore its rich harvest, others were by no means neglected, though perhaps the greatest and most brilliant success of the chemistry or dyestuffs had been the industrial synthesis of indigo.

The study of these dyestuffs had become a domain of chemistry unsurpassed for variety and fascination; it taught a lesson even to those who were apt to look upon science as a pastime for those who lacked ability for practical life, for they could not help seeing that in this instance the most intricate science had led to something eminently practical and valuable.

FLAX-GROWING IN MANITOBA.

A Paying Crop.—Mr. Christie, the special commissioner of the Dundee Courier to Canada, in the course of a letter to that paper, says: "Flax-growing in Manitoba and the provinces is increasing yearly, and farmers find it is a good paying crop, the total acreage under cultivation in Manitoba this year being 56,000 acres. Too little attention, however, is paid to the proper cultivation of it, and, were more care taken in preparing the ground for the seed, and in using the very best of seed, much better results would follow. The preparation of the soil is most important, and it should be ploughed in the autumn and sown in the beginning of June, the quantity of seed used being from 40 to 50 lbs. per acre. It should be sown shallow, and at a depth of not more than one-half to three-quarters inches. If this treatment is carried out, a remunerative crop of from 16 to 22 bushels will be secured. The finest flax seed in the world is grown in Manitoba, and realizes from \$1.10 to \$1.50 per bushel. Many farmers take a crop of flax after the first breaking of the land and before it is ready for wheat sowing. Others, again, sow it on any piece of spare land they have after the wheat, barley, and oats are sown, and consequently sometimes it is seeded too late in the season, and does not ripen properly before the cold weather sets in. It

is then cut by the ordinary binder, and a poor return of seed is the result, it being in so many cases only fit to be used for feeding cattle and horses.

"The Fibre Industry.—With regard to the fibre industry, it has been proved, after many years' trials and experiments, to be unsuccessful, owing to climatic influences. The straw is very rough, and, after being soaked in water, it dries so quickly that it breaks away. Besides, labor is not plentiful enough to devote to it at the time when other work demands attention, and when time is to be lost the cold weather is on, and renders the operation unworkable. No mechanical appliance has as yet been devised to overcome these difficulties but should such be invented in a way that would render it to be profitable and inexpensive, a new field of industry and wealth would be opened up for the farmers in this vast country."

HINTS ON SCOURING WOOLEN GOODS.

As there is a great difference in woolen goods, there is also a difference in the proper treatment of the various kinds of goods in the scouring process; for instance, a pure all-wool fabric does not require as severe a scouring as low grade goods, providing the wool was handled right. From time to time goods shipped to market have a very bad odor, and in most cases this trouble is the hardest feature to overcome; that is, the goods may look bright and nice, handle fairly well, but will have this bad odor; while, on the other hand, goods may have no bad odor, but may be stiff with dirt, cloudy, streaky, blotchy, rusty, or stained. The former trouble is caused by the oil not having been entirely taken from the goods in fulling or scouring, or it may be caused from the soap if the grease or fat used in making the soap has not been properly saponified. The only thing to do to overcome this difficulty is to increase the alkali. This can be done in different ways, either by adding more alkali to the soap when making it up for use, or by keeping an alkali solution on hand and apply it separately to the goods or mix it with the soap as you use it. The soap should be thoroughly cooked; some grades require far more cooking than others, but if you cook it until it strings it will be sufficient. Never give goods an alkali bath after soaping, as it will make them harsh and crisp; either put the alkali on with the soap or else give the goods a 3 or 4 per cent. bath before soaping; half the quantity of soap will do the work and the goods will not feel so harsh when finished. Be sure to give the goods a thorough rinsing in warm water. Remember, I only recommend this way of scouring when one is up against this bad odor. One will have to use his judgment as to the amount of alkali to be used.—Tester in Fibre and Fabric.

—New color samples have been received from L. Cassella & Co., of Anthracene Chrome colors on carbonized shoddy. Illustrations are given of various Anthracene Chrome colors on carbonized shoddy. The wool waste, which has not been freed from acid is dyed with the only addition of 10 to 20 per cent. Glauber's salt crystals, entering at 120 to 175 deg. F., and boiling for one hour. Then the bath is cooled off somewhat, and the requisite quantities of bichromate of potash added, after which the material is worked at the boil from one-half to one hour.

WANTED

—To Lease or Buy A SMALL WOOLEN MILL, of One or Two Sets, in Ontario. Plant must be Equipped for Making Yarn, and in good condition. One having a Water Power preferred. — Address, "F. S. J.," care Canadian Journal of Fabrics, Montreal.