Mildew.

Chloride of zinc has been extensively used for the prevention of mildew, chiefly perhaps for goods that are to be shipped to warm climates. It has often been said that all sized goods sent to warm climates should contain this substance, and it is undoubtedly true so long as the additional use of chloride of magnesium or packing in a moist state is a necessity. Chloride of zinc has, in fact, gained so important a place as an antiseptic that there seems to be a danger of forgetting that so long as goods are packed in a sufficiently dry state, mildew is an intractable enemy. Several cases have been known where unsized or bleached cloth or pure yarn has been returned from abroad in a mildewed condition, and wherever it has been possible to ascertain the amount of moisture when received, it has been abundantly evident that the cloth or yarn has been due to an excess of such moisture; further, it has been shown that isolated packages from the same consignments have remained sound, owing to normal or deficient moisture. This is, perhaps, one of the best reasons for resisting any increase of the existing standard of moisture.

When goods are packed in bale form, it frequently happens that the mildew is more distinct towards the sides or edges than at the centre, and this has often been taken as evidence of "external mignonage" from wadding. If we consider the greater amount of pressure present at the outer parts of the bale, along with the well-known preference which mildew has for growing in enclosed air spaces, we shall see that it is easy to imagine how the distribution of mildew throughout the bale. The enclosed air spaces are found at the ends or edges of pieces, at the headings of knots in bundles of yarn, alongside string used in making-up separate parcels, and these places provide the best conditions for mildew growth. Such spaces, moreover, are the very places where the mildew grows most luxuriantly when this defect has attacked the whole package to some extent.

It is almost impossible, from an examination of a damaged sample to distinguish between rain, water that has penetrated through the packing to the goods in transit, and water already contained when packed; but sea water can generally be identified with certainty. If the goods contain antiseptics, however, it may in some cases be impossible to say whether sea water is present.

The amount of chloride of zinc required to prevent mildew is stated to be 8 per cent of dry chloride, calculated upon the weight of organic matter added in sizing. This amount is accepted as a standard, and cloths are assumed to be mildew-resistant when they contain this amount of chloride of zinc present.

When goods are returned mildewed from abroad, it is always advisable to have an unopened bale or case returned, so that some idea can be gathered of the amount of moisture present in the goods at the time of packing.

The use of excessive quantities of paste for fastening tickets may also be mentioned as an occasional source of the excessive moisture and consequently a cause of the mildew growth.

**Tendered Cloth or Yarn.**

Difficulty frequently arises in deciding whether a sample of cloth or yarn is tender, the buyer and the seller holding entirely different views on the particular case in point. They can seldom agree upon the definition of the word, and it is not surprising, since it admits of a comparative meaning, that both may have some grounds for their position. A hearsay phrase of the market is the term "below the common to the goods in question," but others will maintain that the meaning is "of such weakness that the buyer is entitled to reject the goods or to claim an allowance." Whatever the course of the market, the term is "below the tendered ground upon which an opinion can be based or a conclusion arrived at as regards any particular instance, must be the strength test; this may be arrived at by ascertaining the breaking strain of the woven cloth, or where a comparison of tearing strain is more to the point, the separate threads of
the cloth should be tested. This latter means of testing is frequently more valuable than a cloth test, because the results are directly comparable with the hand tests or rule-of-thumb tests practised by buyers.

In testing cloth or yarn supposed to have been tendered by chemical action on the fibres, it is advisable to note whether the clay content of the sample is present, as these figures frequently showing large differences between sound and tender yarn or cloth. It is of course necessary to compare the strength of the suspected sample with that of a sample admittedly sound, since it is impossible for the industry to have standards for all kinds of cloth and yarn, sized, bleached and dyed goods. This is a branch of testing requiring much further investigation, particularly so in view of the increased importance attached in recent years to the value of the test.

Cloth is frequently tendered in the singeing process previous to bleaching or dyeing. A determination of the amount of chloride of magnesium, or other chloride, once show whether this substance has contributed to or caused the damage. We have known at least one case where the manufacturer was quite unaware that chloride of magnesium was present in his size-mixing until it was pointed out that one of his sizing compositions contained this substance without his knowledge. It must be mentioned that the ash of pure cotton naturally contains calcium and magnesium chlorides to a small extent. The quantities natural to cotton have been carefully ascertained, and the quantities found by analysis have, of course, to be reduced by the amounts natural to the cotton in order to find the amounts of added salts.

The tendering of bleached goods is frequently attributable to the absorption of acid fumes, and it is taken for granted, so long as any mineral acid can be found in the cloth, that this is the cause of damage. It is frequently impossible to state the amount of acid found, since it is too small to be extracted with water. An exact determination of the amount of acid contained in the tendering may be obtained by removing the tendering washings, heating this to 105 deg. C. until no further loss in weight is sustained. The loss in weight is calculated to percentage of moisture.

For the determination of the ash 2 or 3 gms. of the sample are treated in a silica dish until well charred. The flame is then removed and the dish allowed to cool, when three or four drops of pure nitric acid are added and the contents are heated for a few minutes, and allowed to cool strongly, until all carbon has been consumed. The dish is then cooled in a desiccator and weighed, and the ash calculated.

Tests are estimated by placing about 5 gms. of the dry sample rolled in the form of a cartridge, using fat-free filter paper in a Knorr extractor and treating with ether for about two hours. The increase in the weight of the flask equals the amount of oil and grease. The flask containing the extracted matter should be heated at 105 deg. C. to remove the last traces of water. Care should be observed that no cotton oils are carried over mechanically, otherwise the results obtained would be erroneous.

The presence of acid is determined at the bleaching stage by testing the wash-water after the operation of soaping. Two test-tubes are used, one containing a portion of the wash-water and the other distilled water. One drop of methyl orange is added to each test-tube and comparison made. When the acid action has set in, the solution of methyl orange shows that all acid has been removed, and that washing is complete.

At the bleaching stage tests must also be made for the detection of free chlorine. For this test a portion of the wash-water is placed in a test-tube, a few drops of acetic acid added, followed by a small amount of a solution of potassium iodide and starch. The production of a blue color indicates the presence of chlorine.

As cellulose is insoluble in alkalies, whereas hydro-cellulose and oxyz cellulose are soluble, these characteristics afford a means of determining the presence or absence of the two forms of modified cellulose. A solution of caustic potash, 10 per cent., carefully checked against standard acid, is employed for the purpose. About 2 gms. of the cotton previously dried are placed in a beaker of about 250 c.c. capacity, and covered with 100 e.c. of the 10 per cent solution of caustic potash; the beaker is covered with a watch glass, and the contents heated at 100 deg. C. for three hours, during which time the cotton must be kept completely submerged in the solution. Any loss of liquor by evaporation during the period of heating must be compensated for by the addition of distilled water. After heating the required length of time, the contents of the beaker are poured into a litre of water in a larger vessel, any residue being washed from the small beaker to the larger. The alkaline is then neutralized by an excess of acetic acid; any undissolved cotton is then filtered into a weighed Gooch crucible and washed successively with hot water, alcohol and ether, and dried at 105 deg. C. to a constant weight.

The Term "Shoddy" in the Textile Trade.

The subject of finding a new name for "shoddy"—a task of no extreme difficulty in itself—was revived the other day. What is shoddy? The manufacturer has no doubt and has his answers pat. Shoddy means to him the longer fibre recovered from the disintegration of woolen cloth; in other words, his shoddy is good, serviceable stuff.

To the person in the street shoddy does not mean the same thing. The shoddy against which the consumer rails is not good stuff at all, but rubbish; false goods which attract the purchaser only to ensnare him; trash of any kind, irrespective of its origin, composition, or manufacture; articles of a fair outward aspect that are not worth the money paid for them.

No vendor of textiles to the general public would label his goods as shoddy, being too well aware of the double meaning. He is more likely to call his fabrics "uncommittal name," or this, that, pilots, meteors, or cherubs, for instance. The woolen manufacturer's shoddy is not sold as shoddy, and does not get called by that name unless the purchaser feels that he has been deluded in buying it. There has to be some one name to denote a bad bargain, and the choice has descended upon shoddy, a term that will hold the field until it has been extinguished by another of a more opprobrious sound.

It is impossible for the present to sterilize that word and purge it of the objectionable associations, and hence arises the question of abolishing the ambiguous term from all trade use. Perhaps if the name were left long enough disused it would perish and lose its association with woolens and with rags. Necessarily the name must be a long time in dying, but it is one that the trade can quite well do without, and is not too fond of using.

The more polite name for the article is the generic one, rags, and although there are traders unashamedly calling themselves shoddy manufacturers, they are rag pullers, not makers of cloth. Is it conceivable that their retention of an inelegant and inuphonous name does something to perpetuate the confusion between good shoddy and fraudulent goods? If so they can have no compensating advantage for clinging to it, and they could rationally be asked to find some inoffensive substitute for it.