

Cotton contamination survey 1999, ITMF

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Résumé : L'*International Textile Manufacturers Federation* organise une enquête d'opinion parmi ses adhérents tous les deux ans. Cette enquête recense la perception des filateurs face à des cotons des principales origines de cotons. Cette présentation relate les résultats de la dernière enquête réalisée, et les compare aux résultats des précédentes enquêtes.

Note : N'étant pas disponible à la date de la conférence, M. Herwig Strolz a eu la gentillesse de nous fournir le diaporama qu'il a présenté à la conférence de Brème. Jean-Paul Gourlot qui a assisté à cette conférence en a fait la présentation. Le texte ci-après a été rédigé par M. Herwig Strolz.

Some of those present in this room will recall from past presentations to this conference that ITMF started over 20 years ago to regularly survey spinners around the world on their perception of contamination they have experienced with the processing of cotton. In 1989, the survey was put on a new methodological basis, the 1999 edition released in October of last year being the sixth and last in the new series.

Before entering the analysis of the results of the 1999 report, I would like to make two observations in response to questions which have been raised in the past. The first relates to what this report is all about. As I have said earlier, it is a reflection of spinners' **perception** of contamination. It is not a scientific pronouncement on a cause and effect relationship we feel is neither necessary nor feasible. Spinners are buying cotton with the record of perceived contamination in mind and not on scientifically-founded evidence. Producers would therefore be well advised to take the results of the survey seriously and think about proper strategies to correct the problem.

The second point I would like to make relates to the question whether the survey is a true reflection of the extent of the contamination phenomenon. The most important precautionary measure we have taken to avoid distortions consisted in the elimination in the report of all growths that have been evaluated less than five times. From a statistical probability point of view this would seem to ensure as true a reflection of the real situation as possible. Because of this limitation, of the 87 growths (figure 1) which were evaluated by the spinning mills that participated in the 1999 report only 58 (figure 2) or two thirds were considered in the survey.

Let me now turn to the results of the 1999 report.

Participation

As far as participation is concerned, the number of reporting spinning mills decreased (figure 3) slightly from 297 in 1997 to 283 in 1999 as did the number of participating countries which fell from 27 to 24,

the most notable absentee being Pakistan whose industry ceased to be a member of the Federation two years ago. Lower participation was partly responsible for a fall in the total number of samples evaluated which decreased from 1 800 in 1997 to 1 500 in 1999 (figure 4). The other reason for a lower sample level lies in the fact that in 1999 a particularly large number of participating mills were from cotton producing countries such as India and the US which limited the number of evaluated growths as spinners in these countries use mostly domestic varieties (figure 5). Thus the 43 participating US spinning mills evaluated 160 samples, a relationship of 1 to 3,8 whereas the 14 participating mills in the Czech Republic evaluated 78 samples (1 to 5,6).

Overall Contamination

The really bad news of the 1999 survey (figure 6) is that contamination overall deteriorated, showing the second steepest rise in a two-year period after the one from 1993 to 1995. The cottons evaluated in 1999 were in 21 % (18 % in 1997) of all cases found to be seriously or moderately contaminated (figure 7) by 16 different sources of foreign matter mentioned in the questionnaire, leaving only 79 % (82 % in 97) insignificantly or not at all contaminated. As the summary data are arithmetic averages, the extent of contamination is fully illustrated only by the results for the individual contaminants (figure 8) which range from a mere 4 % for "tar" (unchanged from 1997) to no less than 39 % of all cottons evaluated being moderately or seriously contaminated by "organic matter", i.e. leaves, feathers, paper, leather, grass and bark, etc. (+ 5 % compared to 1997). Other serious contaminants were strings and pieces of fabric made of jute/hessian, woven plastic and plastic film.

Contamination by Country/Region

When we look at contamination by countries/regions (figure 9), we see a worsening situation in 1999 in nearly all major producing areas, one of the few exceptions being Argentina. Countries/regions showing the most pronounced deterioration were West Africa (+ 56 % compared to 1997), Pakistan (33 %) and India (+ 16 %). It must be stressed however that despite the large increase in percentage terms, West Africa remains an area with an overall low level of contamination compared to India and Pakistan. Even model countries such as Australia and Zimbabwe had a higher contamination record in 1999 although they still remain on top of the list of the world's least contaminated growths.

The longer-term development covering the period from 1989 to 1999 shows a mixed picture of deteriorations and improvements (figure 10). Limiting myself to the major growths, Central Asia remains the area with the worst record showing an increase in 1999 of nearly 160 % over the contamination level of 1989. Egypt follows in second position (+ 127 % since 1989) but exhibits the steepest rise in the last 2 years. In third position amongst the larger producers comes the United States (+ 46 %) which exhibits a slight acceleration since the mid-Nineties. With an average degree of contamination of 12,6 % US cottons range however at the lower end of the scale. West Africa which has performed best between 1989 and 1997 has not been able to continue on the same track, the deterioration in the last two years being the second largest in this group of countries after Egypt. India and Turkey, two countries which started out with very high contamination levels in 1989 have recorded some improvement last year, Turkey's overall contamination level in 1999 being however still 24 % higher than 10 years ago whereas India's remained unchanged from what it was at that time. Brazil's overall contamination level finally shows a slight deterioration compared to 1997, but still a marginal improvement over what it was 10 years ago.

The ITMF report does not only cover sources of contamination proper but also such problem areas as stickiness and seedcoat fragments.

Stickiness

As far as stickiness is concerned, occurrence overall for the 58 growths evaluated has fallen in 1999 to about the same level as in 1995 and was marginally better than in 1989 (figure 11). This has come as a surprise to some and was the result of a significantly lower occurrence mainly in US and Central Asian growths which, thanks to their high consumption and hence evaluation levels, have a considerable weight in the overall picture (figure 12). Countries where the situation has slightly deteriorated are India and some West African descriptions. There was only one country where stickiness has risen sharply in 1999, namely Mexico.

Of the more important growths (figure 13), Sudanese cottons remain the most affected with nearly 75 % of all those having used these origins experiencing stickiness, followed by the average of all growths of West Africa (33,5 %), Central Asia (25,3 %), India (21,9 %) and the US (18,6 %). At the lower end of the scale follow Turkey (9 %), Australia (9 %) and Argentina (5 %). No stickiness was reported from Paraguay.

Seedcoat Fragments

After a drop of 16 % in 1997 (figure 14), seedcoat fragments flared up again in 1999, 38 % of all evaluations indicating the presence of this particularly nasty problem for spinners. As a result, the longer-term trend is now clearly in an upward direction whereas it pointed downwards for the 1991-1997 period (figure 15).

In the league of the most affected growths (figure 16) are those from Pakistan (67 % of all evaluations indicating the presence of seedcoat fragments), the average of all growths from Turkey (61 %) and from India (59 %). In the middle range the average of all growths from Central Asia and West Africa (34 % each) and from the United States (26 %). Nearly free of fragments were cottons from Australia (5 %).

Outlook

According to the International Cotton Advisory Committee, the share of cotton in total fibre consumption has fallen to under 42 % in 1999 from 50 % in 1986 and is forecast to go down further to 40 % five years from here. Even if consumption of cotton will grow in absolute terms, it will rise much more slowly than the competing man-made fibres.

There are several ways open to combat this potentially dangerous course, one of them being the improvement of quality, contamination-free cotton remaining the number 1 priority of any spinners. All the mechanical and electronic devices that have been developed in recent years to eliminate contamination in the spinning process should not lead to believe that technology alone will eventually take care of the problem and make contamination soon a subject of the past. Spinners whose mills have been equipped with these devices look at them as a safeguard of last resort. Only contamination-free cotton (figure 17) allows them to run their mills at the highest levels of productivity which is so essential for success in today's competitive textile world.

Cotton Contamination Survey 1999 Evaluations

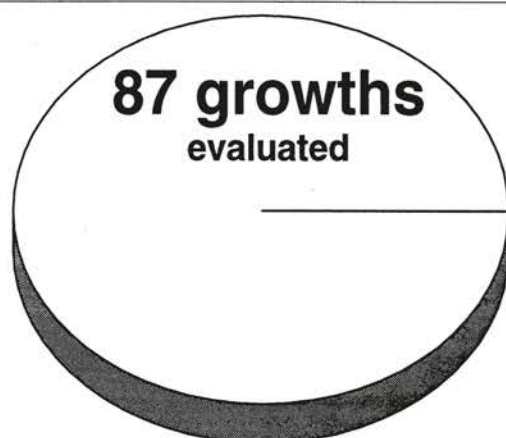


Figure 1 : Number of evaluations.

Cotton Contamination Survey 1999 Evaluations

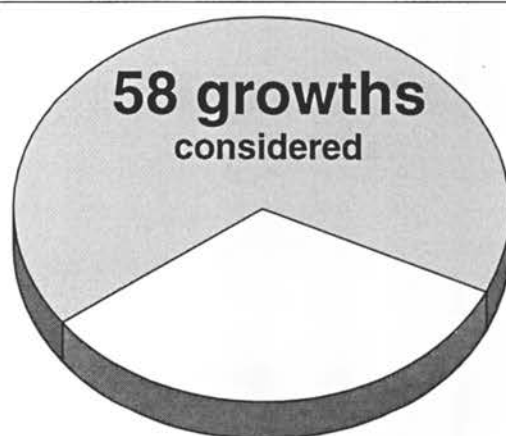


Figure 2 : Number of evaluations considered.

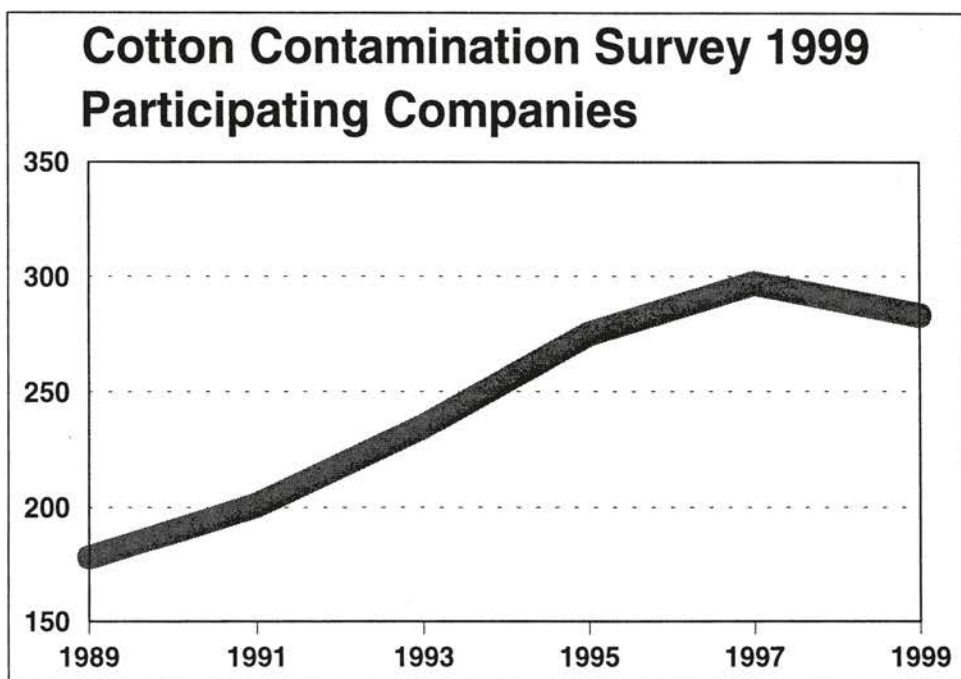


Figure 3 : Number of participating companies.

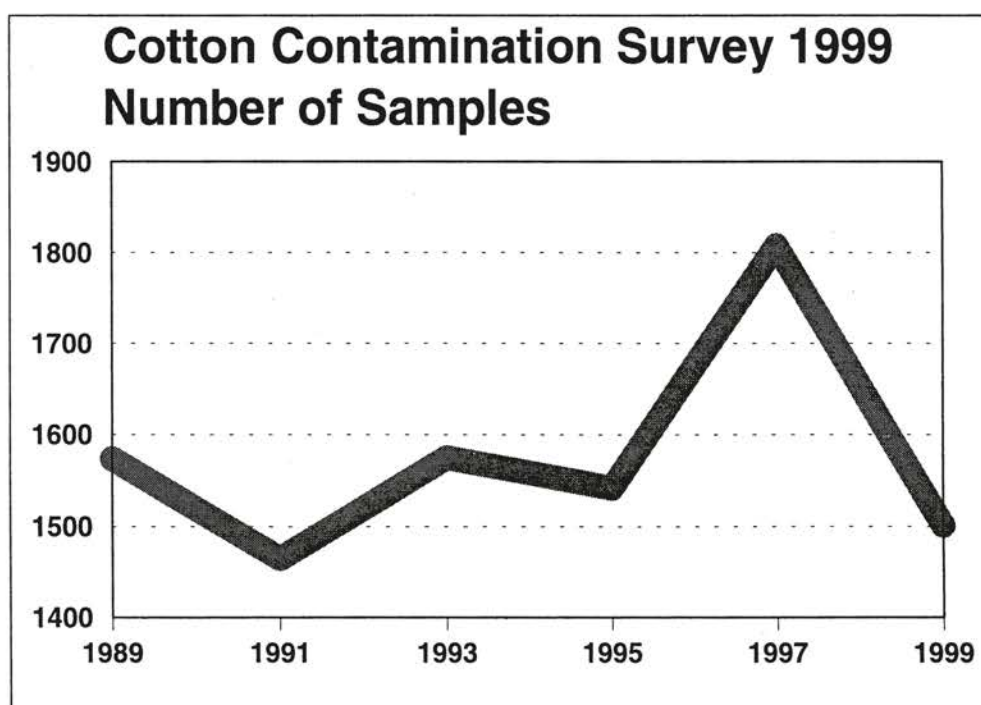


Figure 4 : Number of samples.

Cotton Contamination Survey 1999 Mill Location vs Sample Volume

Country	Particip. Mills	Samples	Ratio
USA	43	160	1/3.8
Czech Rep.	14	78	1/5.6

Figure 5 : Sample representativity.

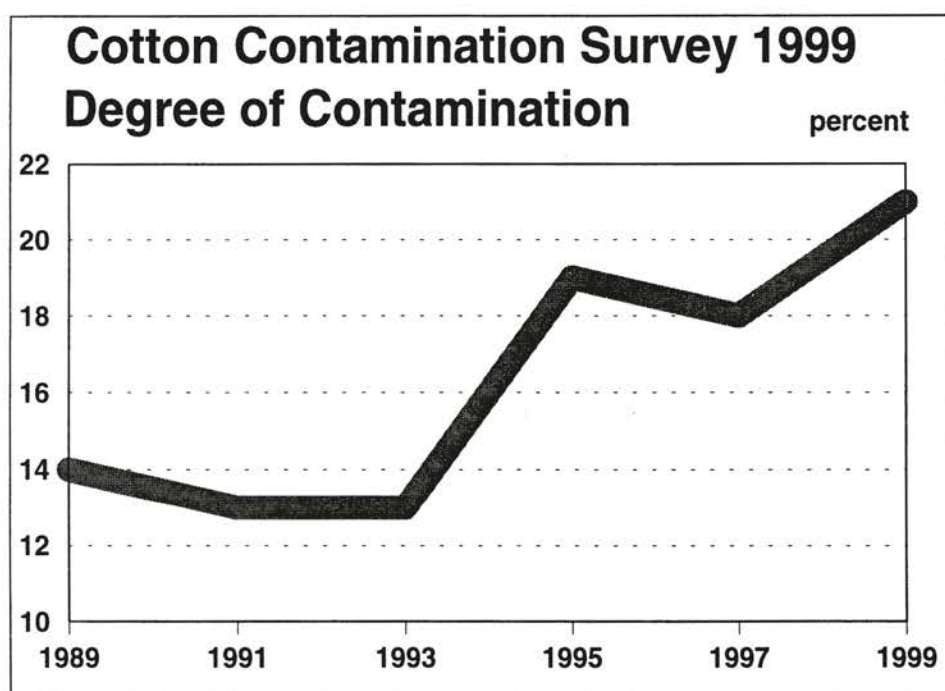


Figure 6 : Degree of contamination.

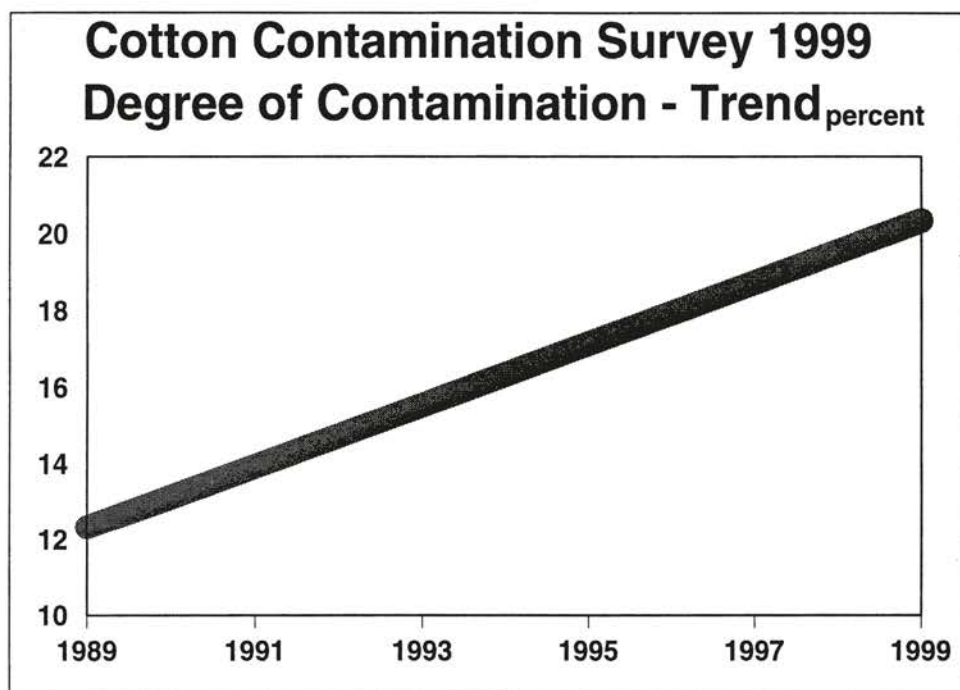


Figure 7 : Trend of the contamination level.

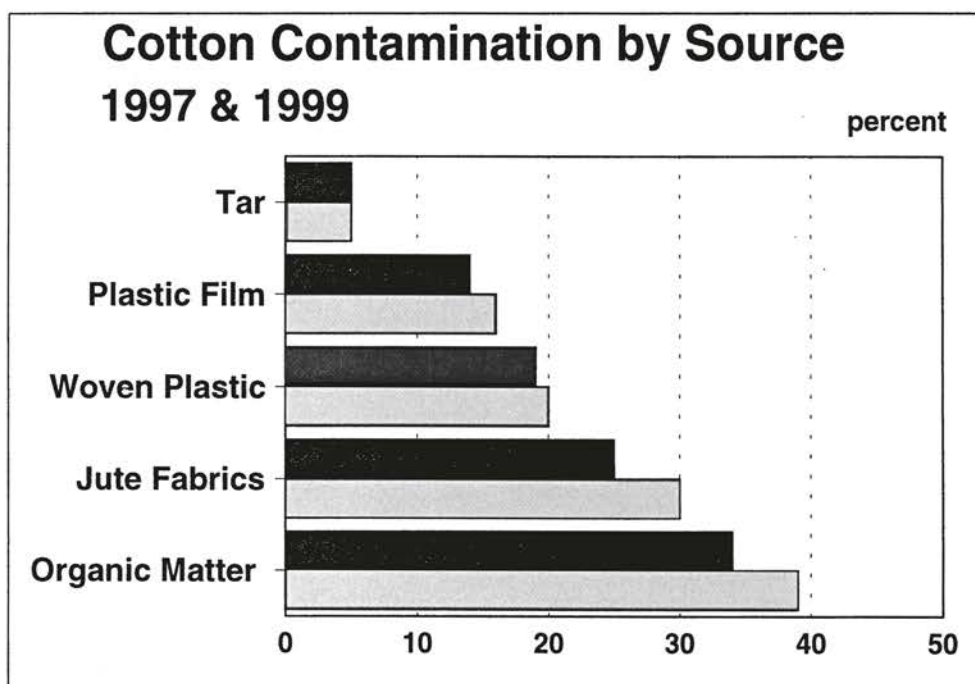


Figure 8 : Contamination by origin.

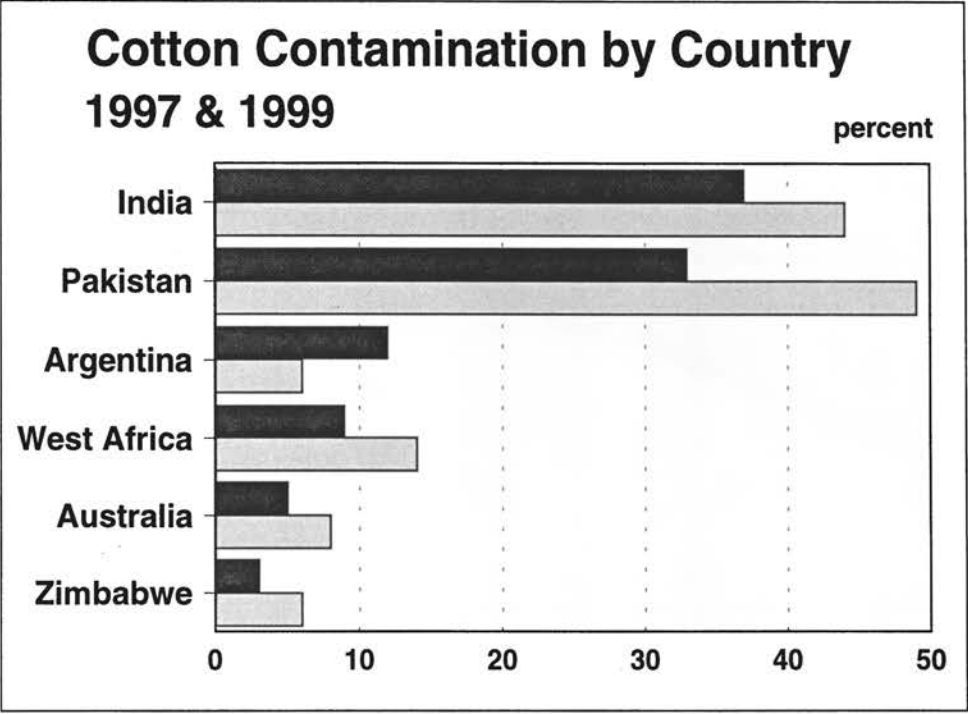


Figure 9 : Cotton contamination by country.

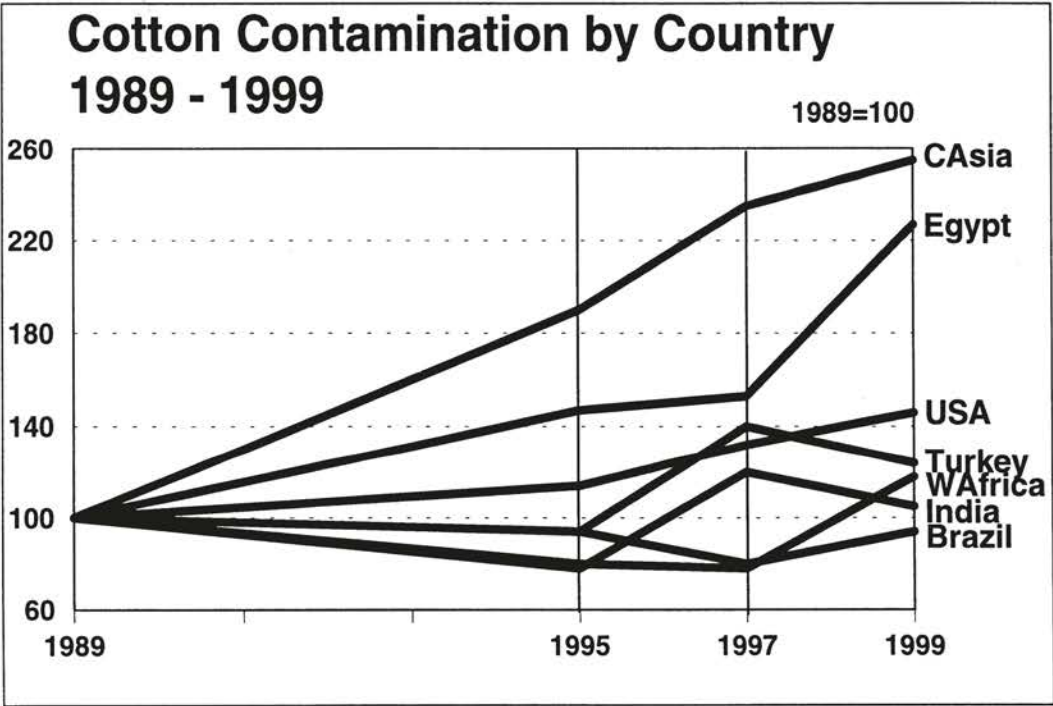


Figure 10 : Evolution of the contamination by country.

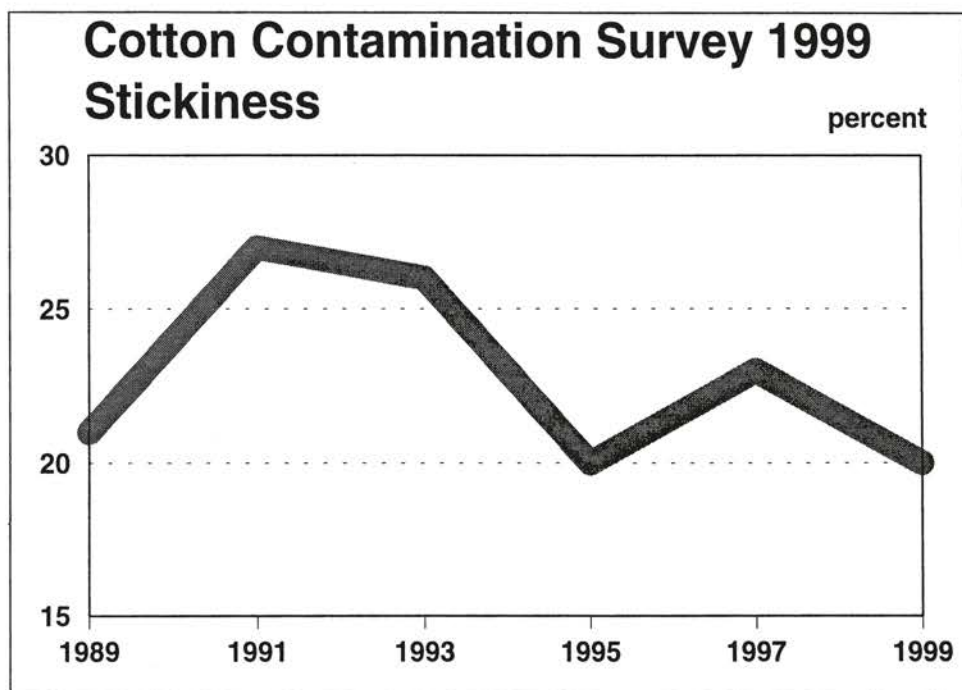


Figure 11 : Evolution of stickiness.

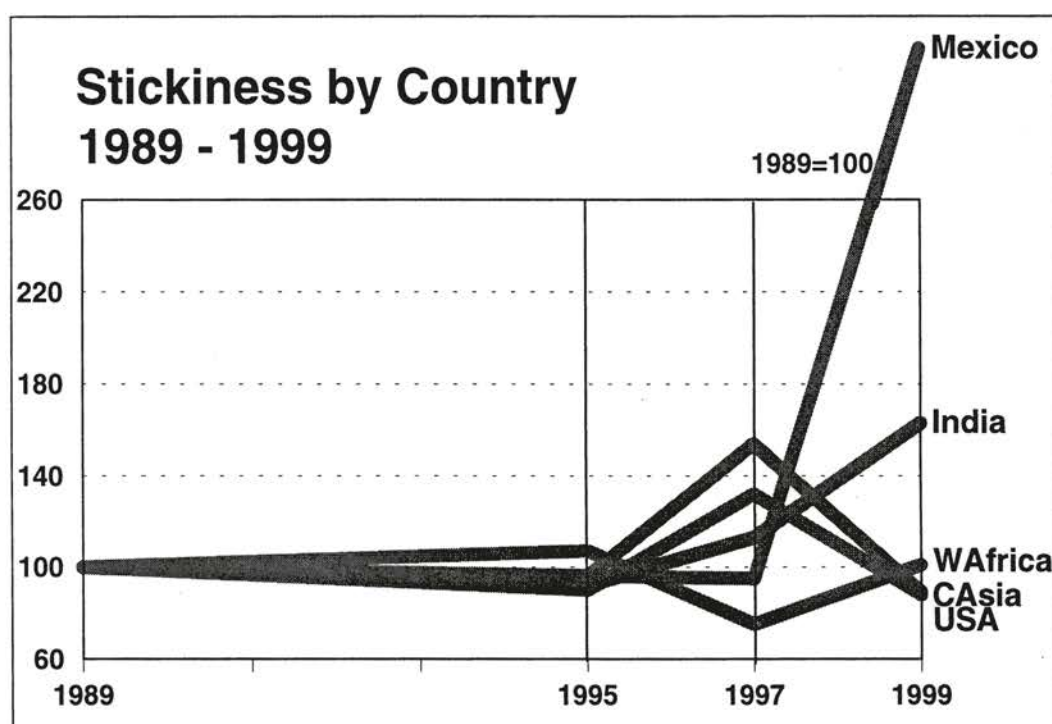


Figure 12 : Evolution of stickiness by country.

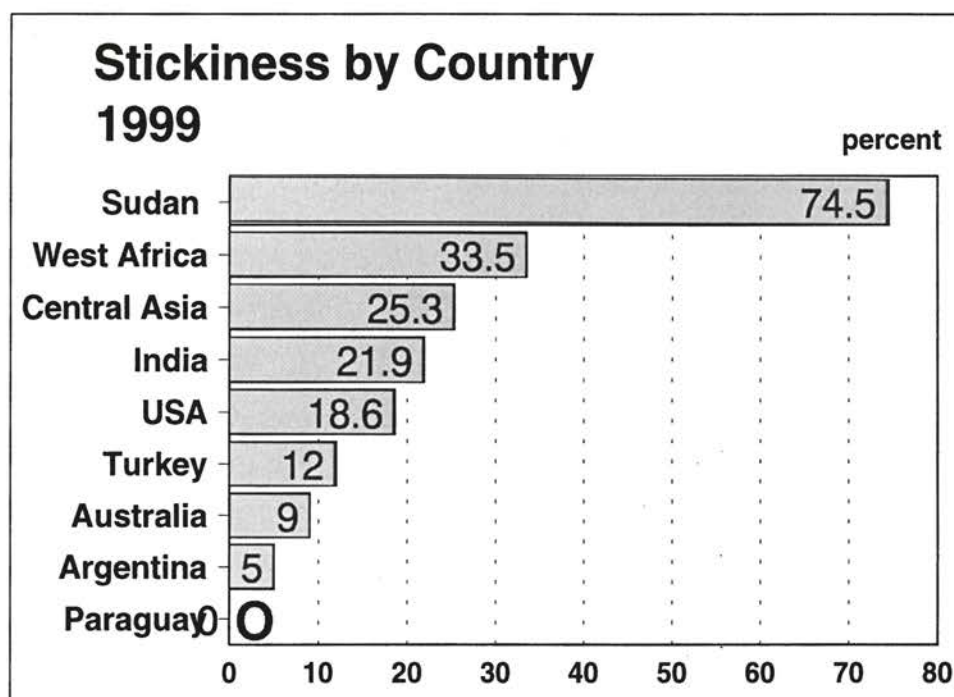


Figure 13 : Stickiness by country.

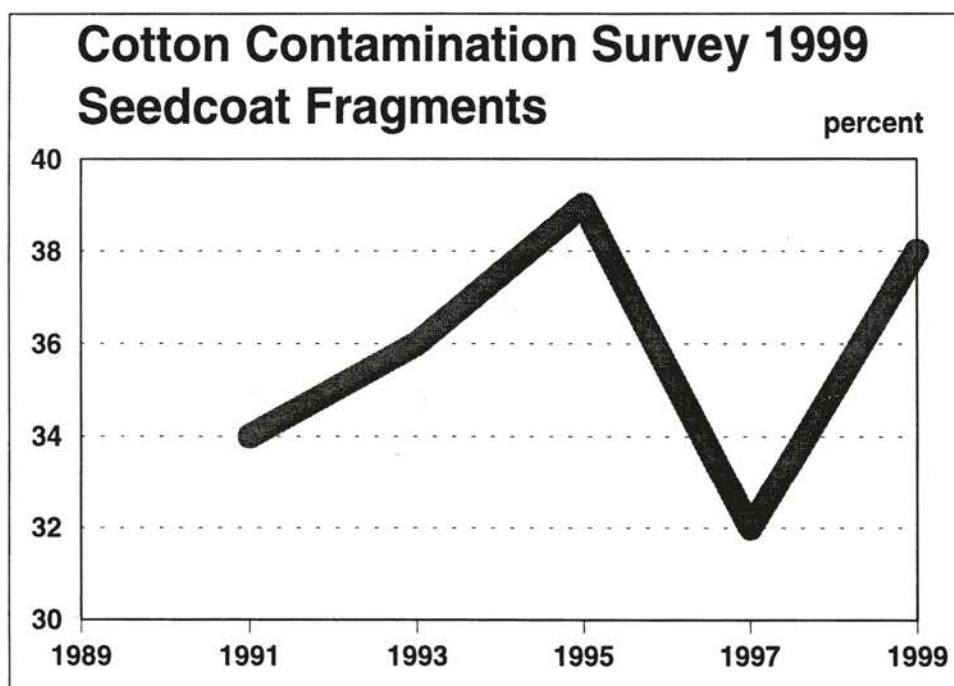


Figure 14 : Evolution of seed coat fragments.

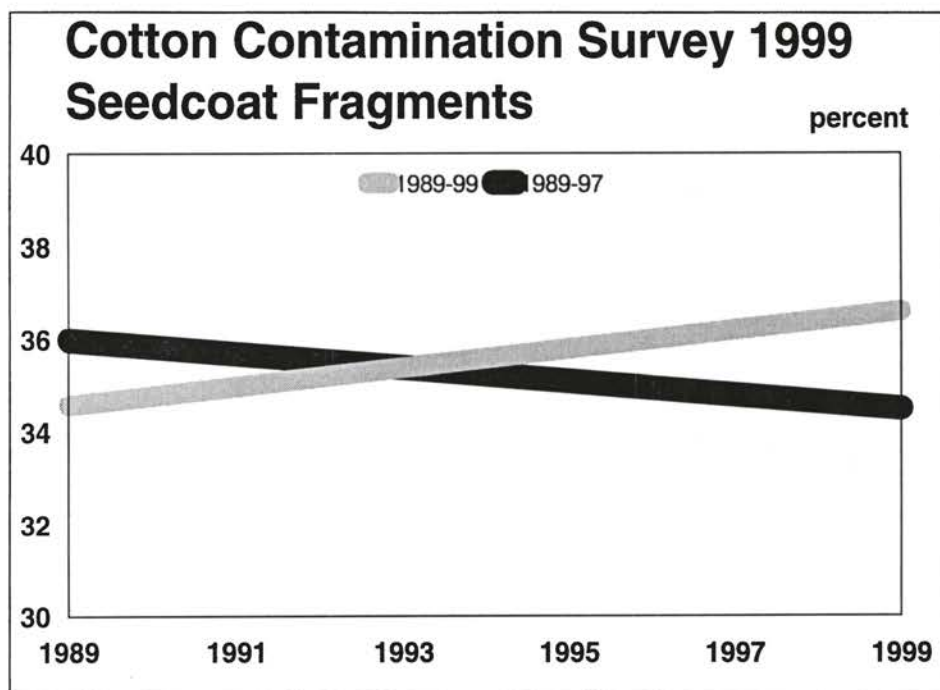


Figure 15 : Global trend of seed coat fragment contamination.

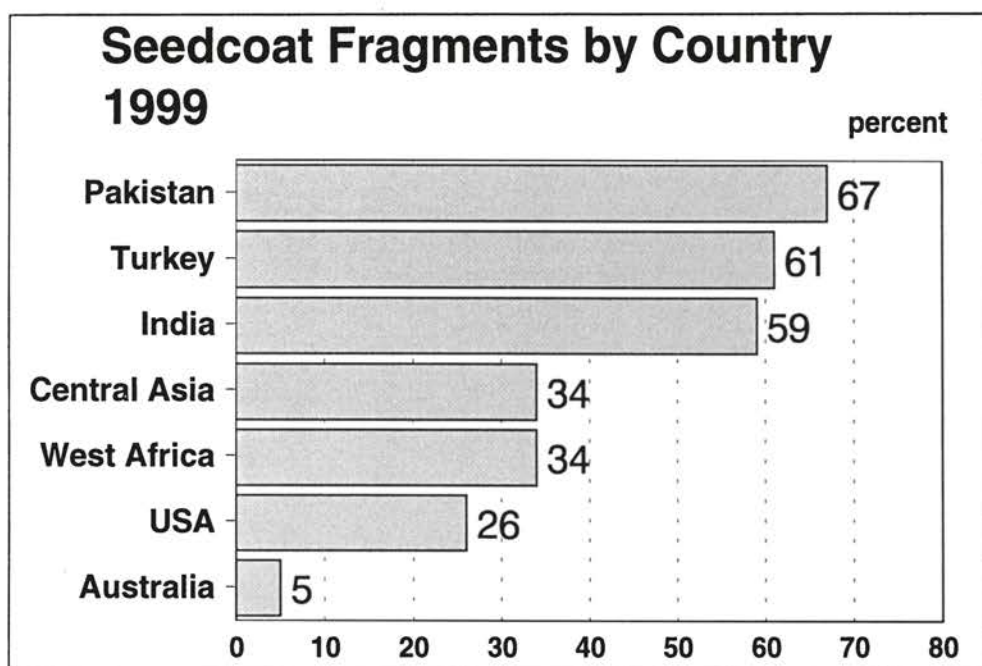


Figure 16 : Seed coat fragment by country.

**Contamination-free
Cotton
=
Number 1 Priority**

Figure 17 : ITMF need.