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(Geneva, 17-19 October 2001)

PRESENTATION AND DISSEMINATION OF AGRICULTURAL STATISTICS IN SWEDEN

Invited paper submitted by Statistics Sweden*

Summary: The Internet is an important tool for the presentation and dissemination of agricultural statistics in Sweden. A special portal site, "Directory of Swedish agricultural statistics", helps users to find their way to major areas in the statistics, irrespective of who it is that produces them or in what form they are presented.
Sweden's Statistical Databases and Statistics Sweden's website play a major role in making statistics on agriculture accessible. All the statistics for which Statistics Sweden is responsible are available in Sweden's Statistical Databases, SSD. "Environment and Agriculture" was one of the first subject matter areas to be completed in the database. Apart from SSD, all official statistics must be presented in *Statistical Reports*, which are issued both in printed form and on the website. The presentation of these reports is standardised in terms of structure and contents. The web version is available in both HTML and PDF formats. On the website users will also find a selection of the agricultural statistics for which there is most demand, presented in table form.

* Prepared by Mr. Berit Olsson, Statistics Sweden.

> Presentation and dissemination via the Internet have brought us many more users of statistics, which is a very positive development. But we no longer know who our users are – there is generally no direct contact. Metadata, information about the statistics in all its forms, descriptive accounts of the statistics, quality declarations, etc., are becoming increasingly important.
> The Internet opens up completely new possibilities for movement between different statistics. We create links and the users themselves find new sources. This creates wholly new opportunities for comparing and analysing statistics, both within a country and, above all, between different countries. This in turn stimulates a new interest in comparative statistics, making it increasingly important to work on improving comparability.

Swedish agricultural statistics - contents and responsibility

1. The responsibility for official statistics in Sweden was decentralised in 1993 and is now shared by a number of government authorities. In addition to Statistics Sweden, there are 25 other government authorities responsible for official statistics. In principle, the responsibility for statistics relating to any sector is decentralised to the government authority responsible for that sector. Thus, the Swedish Board of Agriculture is responsible for agricultural statistics. Statistics Sweden is in charge of the production of inter-sector statistics, for example national accounts and the consumer price index. In total, Statistics Sweden is responsible for about 50 per cent of all official statistics. Statistics Sweden also has some specific duties for the supervision, coordination and development of the entire system of official statistics.

2. Statistics Sweden also produces most of the statistics for which other authorities have official responsibility. The Swedish Board of Agriculture is responsible for official statistics on the structure of the agricultural sector, agricultural and horticultural production, employment in agriculture, agricultural economy and price trends in agriculture. Statistics Sweden has been the main producer of statistics in all these areas except for price trends in agriculture and Economic Accounts for Agriculture (EAA), where the Swedish Board of Agriculture produces the statistics itself.

Statistics Sweden's publishing policy and our website

3. During the 1990s important steps were taken to make Swedish statistics more accessible to users.

a) In 1994 the decision was made to change our IT platform, abandoning the mainframe system in favour of PC-based client/server system. This decision meant a change of direction toward a database-oriented production environment; the goal was to provide our users improved access to statistics.

b) Another decision taken in 1994 was that systems for producing official statistics should be documented and that it would be appropriate for the documentation to follow a special template.

c) Sweden's Statistical Databases have been accessible at Statistics Sweden's website since 1997. However, coverage was relatively limited at the start.

d) The Swedish Government decided that Sweden's Statistical Databases should be available free of charge on the Internet from 2000 onwards.

4. These decisions in combination have led to Statistics Sweden's present publishing policy:

"- The official statistics for which Statistics Sweden is responsible are to be presented and made public in *Sweden's Statistical Databases*. These databases are to be available on Statistics Sweden's Internet website.
- The official statistics for which Statistics Sweden is responsible and which are currently issued in printed *Statistical Reports (SMs)* are to be presented on Statistics Sweden's website. The new web SMs are to be standardised in terms of structure and design. They are to be available in two formats: one for reading on-screen and one for printout. It will also be possible to order SMs from Statistics Sweden in printed form.
- Statistics Sweden's website is also to show all press releases, together with a selection of the statistics for which there is most demand, product by product. These cases also involve official statistics for which Statistics Sweden is responsible. Information will be shown in a standardised form.
- The official statistics for which Statistics Sweden is responsible may be presented in other forms as well, e.g. in publications on special topics and yearbooks, provided that they have been published on the website as specified above."

5. Sweden's Statistical Databases and our website play a major role in making Swedish statistics available. The goal is to give users free access to a complete and coordinated database on the Internet and an informatively designed presentation of the statistics. The concept of a "24-hour public authority" launched by the Government also gives this goal high priority.

6. Statistics produced by Statistics Sweden on behalf of other government authorities may also be presented in Sweden's Statistical Databases, in Statistical Reports or on Statistics Sweden's website. Statistics Sweden welcomes compliance by other government authorities with our publishing policy. The bulk of the agricultural statistics that we produce on behalf of other government authorities are published in Sweden's Statistical Databases, website Statistical Reports or directly on the website. In addition, there is a special portal for agricultural statistics connected with our website, see section 5 and http://www.jordbruk.scb.se/

7. A further objective is to make all material published on the website and in Sweden's Statistical Databases available in English translation. Unfortunately, so far very little of the agricultural statistics have been translated into English.

Presentation of agricultural statistics following Statistics Sweden's publishing policy

Sweden's Statistical Databases, SSD

8. All the statistics for which Statistics Sweden is responsible are available in SSD. Environment and Agriculture was one of the first subject matter areas to be completed. SSD contain information on:

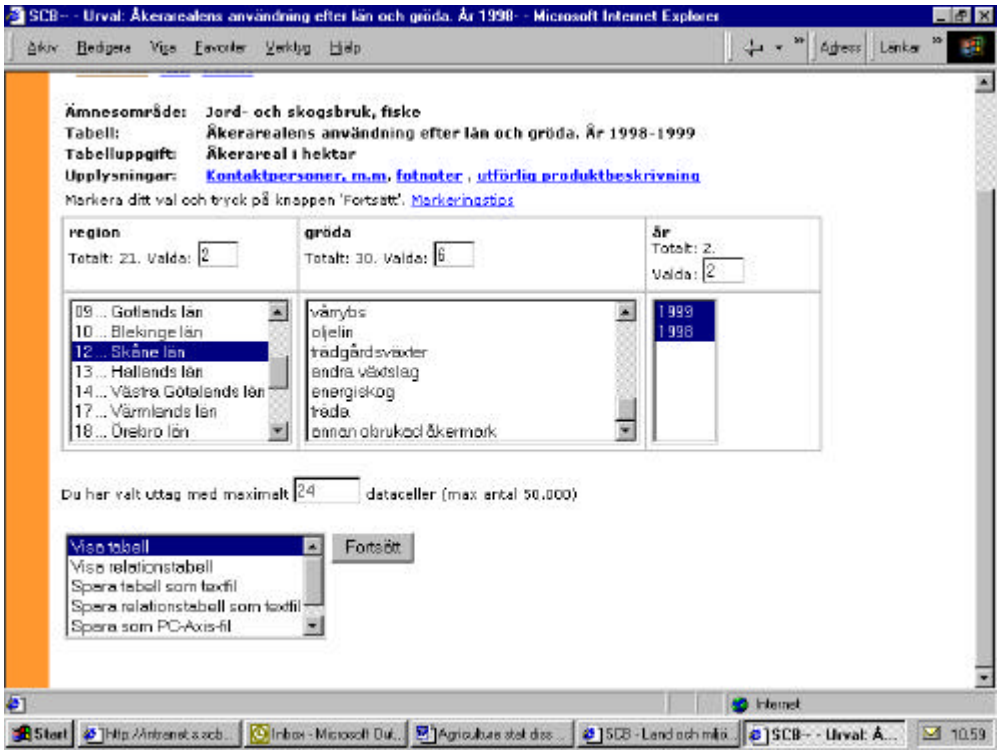
- Agricultural economy
- Register of agricultural holdings
- Actual crop estimates

In total there are approximately 40 main tables on agriculture in SSD.

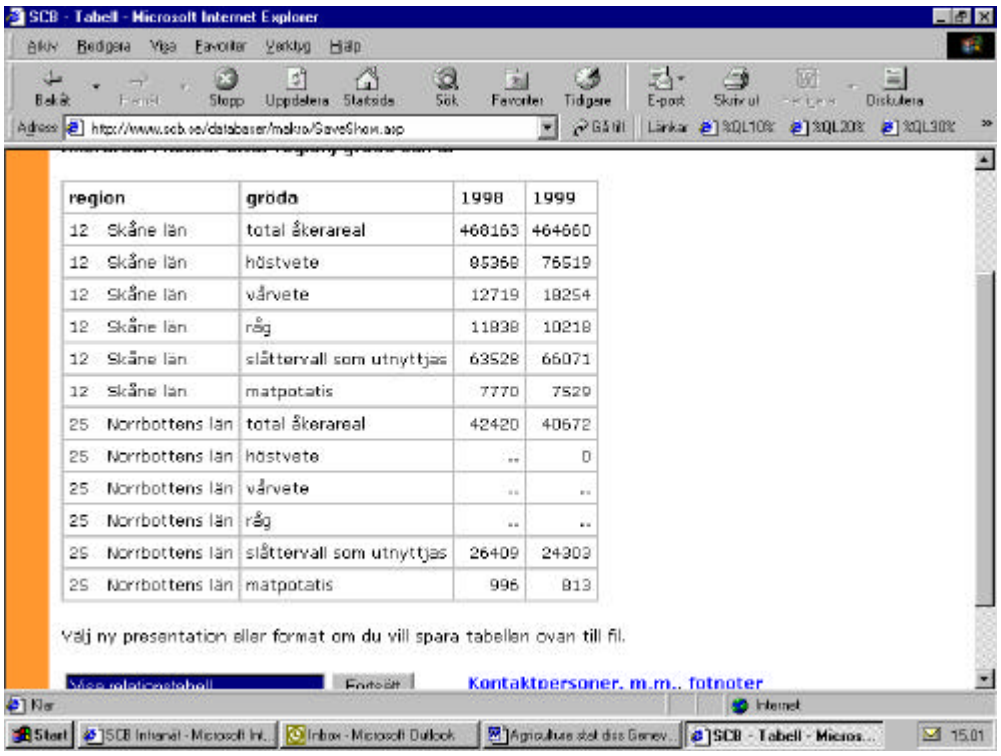
9. The database is organised as a relational database where the aggregated data, the "statistics", are stored as SQL tables. This means that you can create a large number of different combinations from the stored data.

10. One example from SSD is "Use of arable land by county and crop. 1998-99". Arable land in hectares.

11. On the screen you first select regions/counties, crops and years.
In this example the counties of Skåne in the south of Sweden and Norrbotten in the very north have been chosen. Out of a total of 30 available crops, we have selected winter and spring wheat, rye, ley and potatoes, and in this category we have also selected total arable acreage.



12. Different options allow us either to save the chosen table or just display it on the screen. The table on the screen here shows the use of arable land in Skåne and Norrbotten counties, with regard to the selected crops.



region	gröda	1998	1999
12 Skåne län	total åkerareal	466163	464660
12 Skåne län	höstvete	85368	76519
12 Skåne län	vårvete	12719	18254
12 Skåne län	råg	11838	10218
12 Skåne län	slåttervall som utnyttjas	63528	66071
12 Skåne län	matpotatis	7770	7529
25 Norrbottens län	total åkerareal	42420	40672
25 Norrbottens län	höstvete	..	0
25 Norrbottens län	vårvete	..	..
25 Norrbottens län	råg	..	..
25 Norrbottens län	slåttervall som utnyttjas	26409	24303
25 Norrbottens län	matpotatis	996	813

Statistical Reports

13. Apart from SSD, all official statistics must be presented in Statistical Reports, issued both in printed form and on Statistics Sweden's website. The presentation is standardised in terms of structure and design. The presentation on the website is in both HTML and PDF formats.

14. Statistics Sweden has decided on quite strict management of the structure used in the Internet versions of *Statistical Reports*. We think this is essential to enable users to easily find and benefit from the contents of the approximately 350 *Statistical Reports* that we publish. We must make it easy for users both to surf back and forth between different parts of a single report, and to move between different reports and compare their contents. We as producers also need standardised production techniques.

15. The standardised form means that all reports are required to contain the following components, in Swedish:

- Contents in brief
- Statistics with commentary
- Tables
- Maps
- Facts about the statistics
- Names of persons to contact, further information.

There is also a summary in English.

16. The same standardised structure is used both for the HTML version on the Internet and for the printed presentation. Users also have the option of making their own printout of a PDF version directly from the Internet.

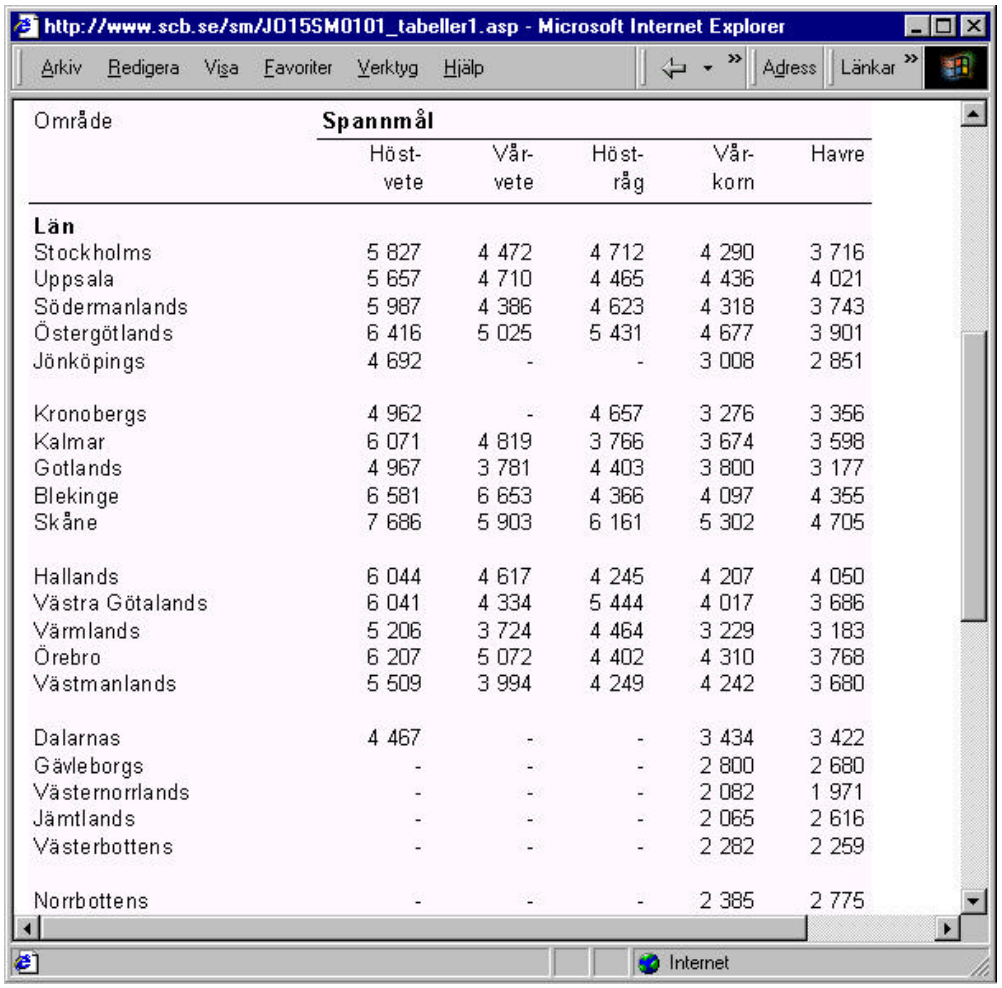
17. The example below shows what a *Statistical Report* in the field of agriculture looks like: Standard yields for yield survey districts, counties and the whole country in 2001.

http://www.scb.se/sm/JO15SM0101_ikortadrag.asp

18. The report begins with a summary, “Contents in brief”, which can also be used as the text for a press release.

19. Sometimes, though not always, a report will contain a descriptive text providing commentary on the statistics.

20. One section contains tables, such as the following example.



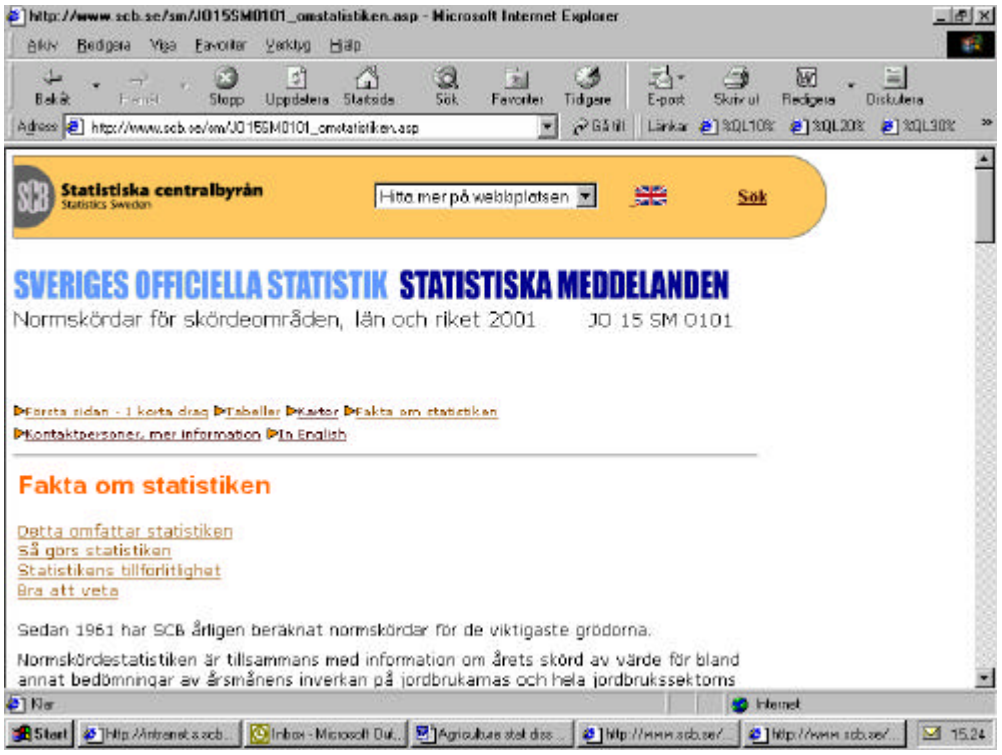
http://www.scb.se/sm/JO15SM0101_tabeller1.asp - Microsoft Internet Explorer

Arkiv Redigera Visa Favoriter Verktyg Hjälp Adress Länkar

Område	Spannmål				
	Höst-vete	Vår-vete	Höst-råg	Vår-korn	Havre
Län					
Stockholms	5 827	4 472	4 712	4 290	3 716
Uppsala	5 657	4 710	4 465	4 436	4 021
Södermanlands	5 987	4 386	4 623	4 318	3 743
Östergötlands	6 416	5 025	5 431	4 677	3 901
Jönköpings	4 692	-	-	3 008	2 851
Kronobergs	4 962	-	4 657	3 276	3 356
Kalmar	6 071	4 819	3 766	3 674	3 598
Gotlands	4 967	3 781	4 403	3 800	3 177
Blekinge	6 581	6 653	4 366	4 097	4 355
Skåne	7 686	5 903	6 161	5 302	4 705
Hallands	6 044	4 617	4 245	4 207	4 050
Västra Götalands	6 041	4 334	5 444	4 017	3 686
Värmlands	5 206	3 724	4 464	3 229	3 183
Örebro	6 207	5 072	4 402	4 310	3 768
Västmanlands	5 509	3 994	4 249	4 242	3 680
Dalarnas	4 467	-	-	3 434	3 422
Gävleborgs	-	-	-	2 800	2 680
Västernorrlands	-	-	-	2 082	1 971
Jämtlands	-	-	-	2 065	2 616
Västerbottens	-	-	-	2 282	2 259
Norrbottens	-	-	-	2 385	2 775

Internet

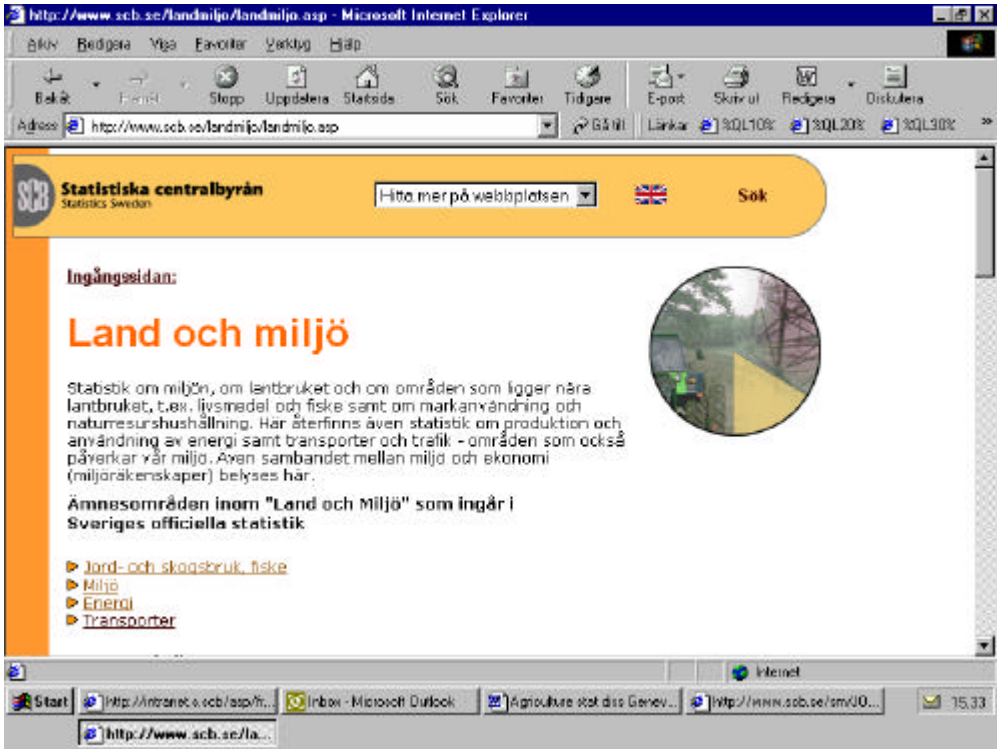
21. Information about the statistics and their quality is important. The standard form incorporates a section presenting such information: “Facts about the statistics”. From this section there are links to more thorough accounts of the statistics and to further details regarding their quality.



22. All reports are required to include a short summary in English.

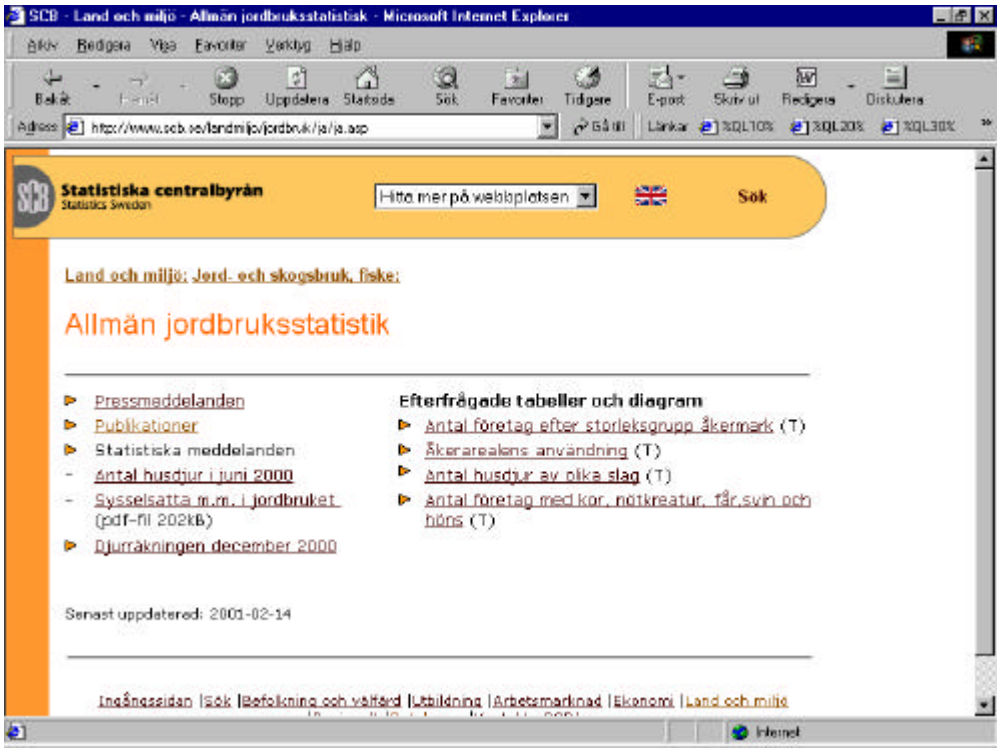
A selection of the statistics directly on the website

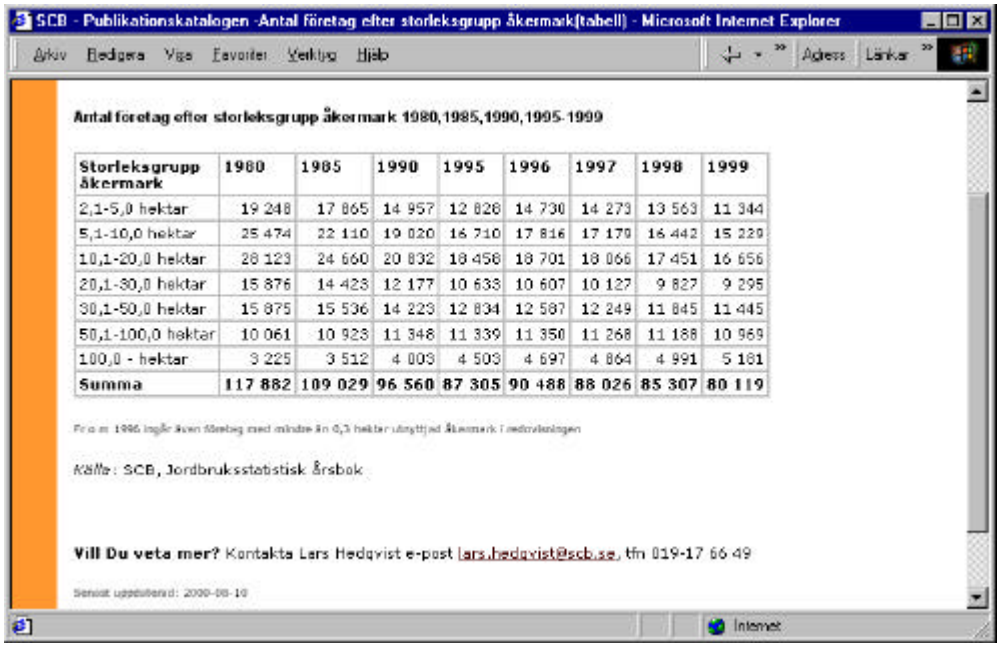
23. Statistics Sweden's publishing policy requires presentation on the website of a selection of the statistics for which there is most demand in each subject matter area. From the first page of the website, you access the area Land and environment. From here you proceed to Agriculture, where you find a selection of the tables in most demand. At each area and table there is a reference to a contact person.



24. Land and environment

- Agriculture, forestry and fishery
- Environment
- Energy
- Transport





Storleksgrupp åkermark	1980	1985	1990	1995	1996	1997	1998	1999
2,1-5,0 hektar	19 248	17 865	14 957	12 828	14 730	14 273	13 563	11 344
5,1-10,0 hektar	25 474	22 110	19 020	16 710	17 816	17 179	16 442	15 229
10,1-20,0 hektar	28 123	24 660	20 832	18 458	18 701	18 066	17 451	16 656
20,1-30,0 hektar	15 876	14 423	12 177	10 633	10 607	10 127	9 827	9 295
30,1-50,0 hektar	15 875	15 536	14 223	12 834	12 587	12 249	11 845	11 445
50,1-100,0 hektar	10 061	10 923	11 348	11 339	11 350	11 268	11 188	10 969
100,0 - hektar	3 225	3 512	4 003	4 503	4 697	4 864	4 991	5 181
Summa	**117 882**	**109 029**	**96 560**	**87 305**	**90 488**	**88 026**	**85 307**	**80 119**

Number of holdings by acreage of arable land, 1980, 1985, 1990, 1995-99

Printed publications

25. There is still substantial demand for printed publications. In the area "Agriculture, forestry and fishery", a number of printed thematic or annual publications have been developed. These publications are much appreciated by their users. They include, for example:

- Yearbook of Agricultural Statistics
- Food in Figures
- Reindeer Farming in Sweden.

26. These publications contain statistics both from Statistics Sweden and from other sources. They are also presented on the Statistics Sweden website. The address for the Yearbook of Agricultural Statistics, for example, is:
http://www.scb.se/publkat/jordbruk/jordbrukarsbok/JA.asp

27. We believe that the demand for the printed version of *Statistical Reports* will decline. However, we expect continued demand for printed books for a number of years to come.

The use and the users

28. Access to statistics has increased dramatically for all categories of users due to the development of the Internet, the website and the databases. More then 150 000 extracts were made from the databases in 2000, which represents a substantial increase over the previous year. It is worth noting that there has been an increase of usage from private enterprises, which is a consumer group that has always been difficult to reach. Of all extracts from the agriculture part of the databases, the business sector accounts for 30% of the extracts and universities for about 20%.

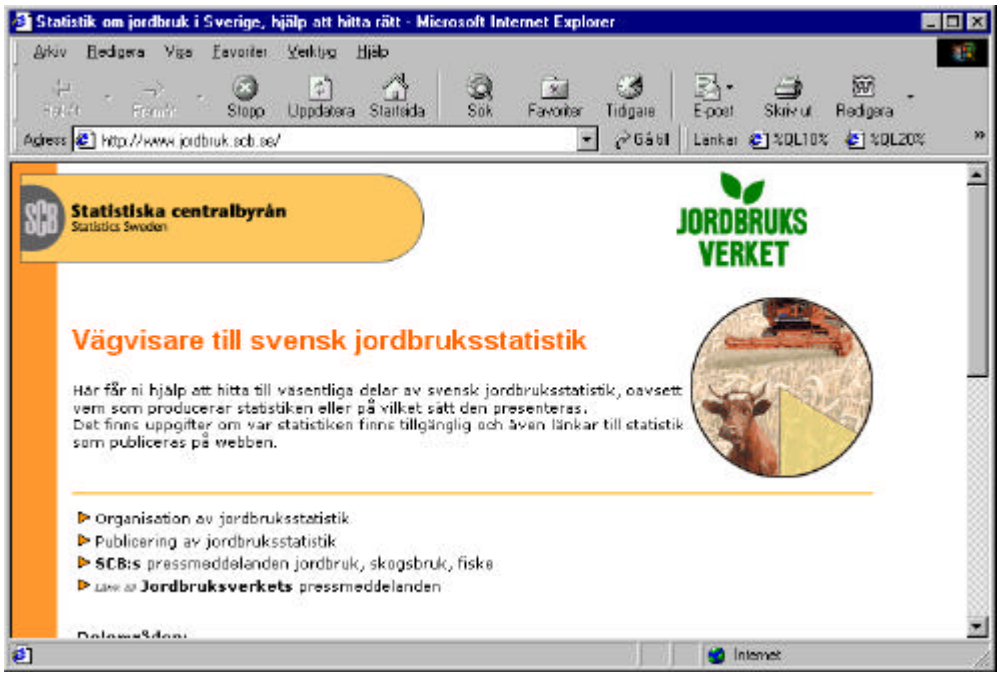
"Directory of Swedish agricultural statistics"

29. Users should be able to reach all agricultural statistics by simple procedures, regardless of who is responsible for them. Here, portals and links can be useful. Statistics Sweden and the Swedish Board of Agriculture have jointly constructed a portal site: "Directory of Swedish agricultural statistics"
http://www.jordbruk.scb.se/

30. The purpose of this portal is to help users to find their way to major areas in Swedish agricultural statistics, irrespective of who it is that produces the statistics or in what form they are presented. The portal provides information on where the statistics can be accessed and also contains links to statistics published on the Internet.

31. The information available at the portal site comes under four main headings:

- Organisation of agricultural statistics
- Publication of agricultural statistics
- Statistics Sweden's press releases: Agriculture, forestry and fishery
- A link to press releases from the Swedish Board of Agriculture.



32. Users can click on a number of different sub-areas to access the statistics:

- Structure of the agricultural sector (number of holdings, acreage, area of operations)
- Labour
- Buildings, plant and machinery
- Non-durable goods (seed, plant nutrients and lime, pesticides and herbicides, feeding stuffs)
- Plant cultivation
- Livestock
- Agriculture and the environment
- Horticulture
- Prices and price indexes
- Agricultural economy
- Subsidies
- Imports and exports
- Balance of resources
- Food and foodstuffs
- Agricultural education
- Farmers' organisations.

33. A large quantity of statistics are also presented on the Swedish Board of Agriculture's own website at www.sjv.se

34. Other websites with important information for users of agricultural statistics include:
www.lrf.se
The Federation of Swedish Farmers has a website containing information on farming.
www.svo.se

National Board of Forestry is a government organisation that supervises the management of forests throughout the country.

Items for further development

35. The accessibility and use of statistics are growing with Internet dissemination. The users are a very heterogeneous group with a wide range of competence/educational levels, whose demands on the statistics vary. One new trend among users is their desire to be able easily to find and then process statistics themselves.

How to search, find and select from the web

36. It is still difficult for users to find the statistics they need on the Internet. The portal developed jointly by Statistics Sweden and the Swedish Board of Agriculture, "Directory of Swedish agricultural statistics" is, however, a good example of a measure that makes it easier for users to search for, find and select statistics from the web.

37. But many other things can be done to improve the options. More powerful *search engines* can eliminate some of the problems. A *thesaurus* – an extensive glossary of statistical terms – can help the users to find relevant search words. A *publication database* will be set up containing information about planned and published statistics, no matter what form they are published in. The goal is that users, starting out from the database or from the website statistical product pages, should quickly find their way to *concise, interesting summaries* of reports, including older reports.

How can users get, reuse and process the results?

38. One demand from visitors to the website is the development of *personal portals* or *personal e-mail information.* If users can define their interest profile on an earlier visit, this will eliminate the need to search at all.

39. Tools to help users look through and read statistical reports quickly, directly on screen, have been developed for the *Statistical Reports.* The reports are given a standard structure that makes it easy for users to find their way around them and jump from section to section. But we also want to introduce a system of *fixed links* between different presentations of agricultural statistics on our website – along with similar links to other sites. The portal "Directory of Swedish agriculture statistics" is a good start but more remains to be done.

40. Users want to be able to extract text and tables from anywhere on the website and to *edit, recombine and process this data themselves*. For the most part, suitable technology and programs already exist. However, it is important to develop *instructive, interactive educational services and guides* on the website to teach users how statistics can and should be used.

How to store the result in electronic form and file the archives?

41. The dissemination of statistics via the Internet has expanded enormously over the last five years. Tools and regulations for storing and archiving the statistics presented in electronic form have not been developed at a corresponding rate. This is therefore one important area for development.

How should we deal with microdata?

42. Requests for microdata appear to be increasing. Larger volumes and more complex information have been requested. Users have increasingly sophisticated tools to handle data faster and more cheaply, and they expect Statistics Sweden to develop accordingly.

43. The predominant view at Statistics Sweden is that we should, within given legal constraints, release as much as possible as fast and cheaply as possible. The release of microdata is thus restricted in many ways, and must continue to be restricted in the future. The problem of releasing microdata without causing negative effects is shared by all statistical agencies. The Internet opens many doors, yet there is a fear of exposing too much information on the Internet due to the risk of breaches of confidentiality. The statistical agencies must consider the negative consequences for future collection of statistical disclosure.

44. Statistical agencies must act in such a way that respondents willingly provide data and retain confidence in the agency's ability to guarantee their anonymity.

Conclusion

45. Presentation and dissemination via the Internet have brought us many more users of statistics, which is a very positive development. But we no longer know our users.

- How should we go about getting feedback from our users so that we can structure and design our statistics in a satisfactory manner? We need to develop new channels for obtaining feedback from users.
- What should we do to educate our users in how, and for what purposes, statistics can be used? Metadata, information *about* statistics in all their forms, descriptive accounts of the statistics, quality declarations, etc., are becoming increasingly important. This is an area where development and improvement is needed.

46. The Internet opens up completely new paths between different statistics. We create links and the users themselves find new sources. This offers quite new opportunities for comparing and analysing statistics, both within a single country and, above all, between different countries. This in turn stimulates a new interest in comparative statistics, making it more and more important to work on and improve comparability. Good documentation, metadata, also makes it easier to undertake comparisons.

47. Increasingly, statistics will be developed primarily for Internet publication. Printed publication, e.g. overviews or analytical reports, will continue to occur for the foreseeable future, but it too will develop and new technology will be used. The design or layout of statistics will go one way where electronic publication is concerned and another where printed publication is involved. Pure replications of printed material in PDF format, such as are now published on the website, will gradually disappear.

48. The new ways of producing and consuming statistics will not emerge on their own. Major investments are needed in hardware and software, staff and education and training. Constant work on quality development and control is required.
