Without urgent, national action to establish a system, which monitors the life history of our cattle, the damage caused to the British farming community, our beef industry and our overall balance of payments post-BSE could have become a long-term disaster.

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Technology to Re-establish the Reputation of Britain's Cattle

In the summer of 1998, the Government set up the British Cattle Movement Service. Its priority was to establish an essential register of all births and imports and all deaths and exports of cattle. By law, every calf intended to live in England, Scotland or Wales, must now have a passport.

The movement of cattle is also detailed whenever they are sold on, and even through to the processing of the meat. The data from each passport, along with information on the millions of cattle movements every year recorded using a system of labels and cards, is processed and stored using the ROCC SEECHECK document recognition and retrieval system from ROCC Computers Limited. To date, the investment by BCMS is worth around £1 million, including system maintenance.

For the British farming and meat industries, the system was vital to help restore confidence in our cattle and meat products. Despite some reservations about the additional administrative burden involved, farmers and producers have welcomed it and

recognise its importance. It will also be critical to enable Great Britain to qualify as having a European Community Certified Database of Cattle. By giving people information on animals going through the system, the BCMS has also brought a transparency into the market which has already been successful in terms of restoring confidence in our cattle and meat products.

...the system was vital to help restore confidence

The Ministry of Agriculture, Fisheries and Food (MAFF) first introduced a passport system in July 1996, but this was based regionally, with no central register - necessary for the ▶

Technology...

tracking of cattle throughout the country. Unless the movements of cattle found to be ill, or the discovery of infected meats can be tracked quickly right through the history of the animal, it is impossible to isolate the source and take the prompt action necessary to eradicate disease or meat processing problems.
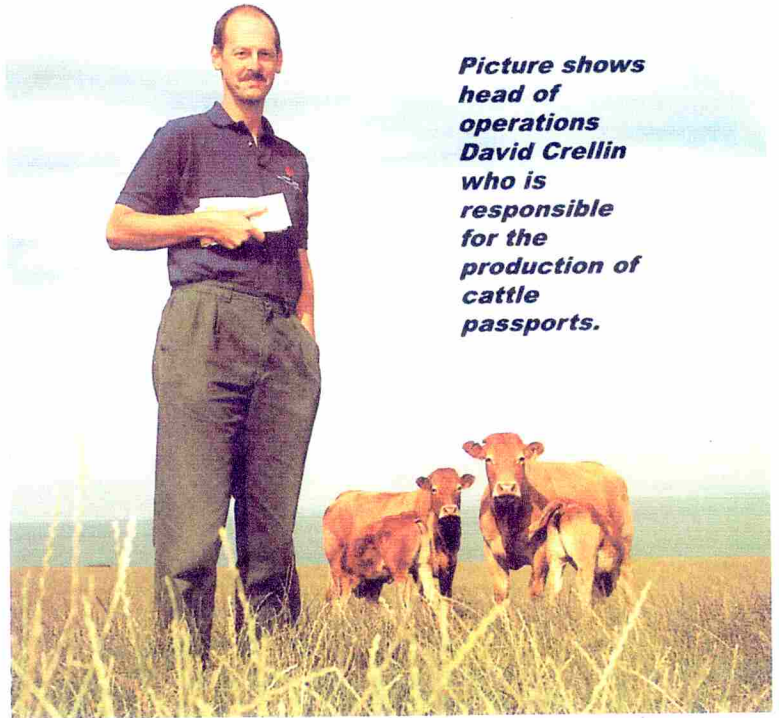
David Evans joined the BCMS as director in January 1998. He has a background in cattle production, government agricultural policy and working with the EEC. "We currently have some three million cattle recorded under the new system since going live on 28th September 1998 and some seven million registered since July 1996 when the original system was introduced. With a British herd comprising some 10-11 million cattle, we recognise that there are still many older animals unregistered, but they are not entering the food chain. The carcass of any animal killed at over 30 months of ag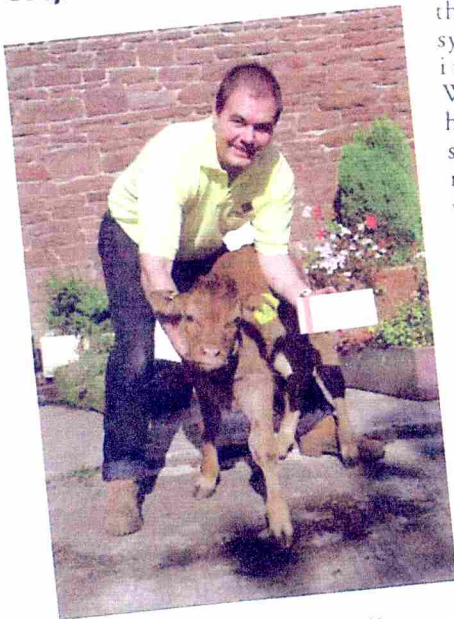e and with no passport is destroyed. Gradually we shall reach a situation where all animals are known, but we can already track the majority of cattle and, in most cases, have excellent local records to assist us as well."

Evans : "..the fact that the system brings transparency to the whole process of cattle and meat production in the UK has quickly won over the sceptics".

Evans is pictured with 'Eddie', a Limousin bull calf, the first animal to be logged on to the Cattle Tracing System database at BCMS.

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Picture shows head of operations David Crellin who is responsible for the production of cattle passports.

(perhaps 30,000 on a Monday), reducing to 8000 by Friday. At the moment it is dealing with 18,000 movements a week and expects this to rise to 500,000 BCMS' anticipated peak volume for all registrations and movements is expected to reach 123,000 a day.

"Accurate and swift processing of passport forms and movements data is fundamental to the success of our system," says Evans. "We are able to process 80% of applications within 24 hours. Ninety-nine per cent of queries are resolved within 10 days, with only one in one hundred taking two

...averaging 18,000 passport applicat-ions a day

Three hundred people are employed at BCMS; they work with MAFF field officers and Meat Hygiene Services personnel out in the field and at abattoirs or meat distribution outlets. BCMS is currently processing 90,000 passport applications a week - averaging 18,000 a day but with the greatest number usually concentrated early in the week
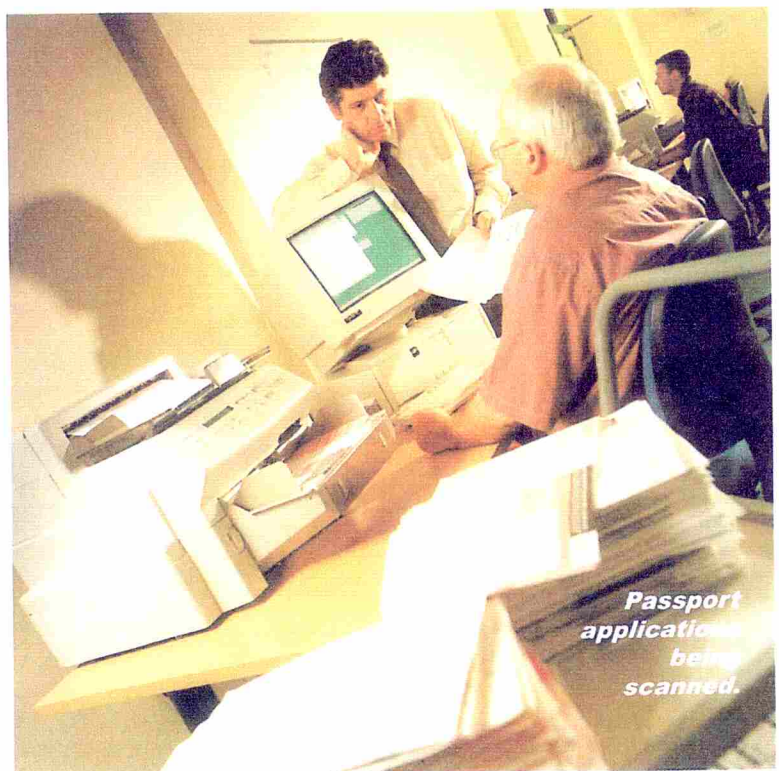

Passport applications being scanned.

weeks or more - usually because we are awaiting further information from the producer or reseller."

The passport system works well. By its very nature, once an animal is registered, it cannot be moved on without the proper paperwork and each movement must tally with previous or later records. The very beginning of the process is that every farmer keeping cattle must now register and gain a farm number. He must register with the official vets who supply a herd number.

...farmers appreciate the benefits

Newborn calves are earmarked with unique codes consisting of two alpha characters and nine digits. The tags are available only from registered tag producers which allocate tag numbers to farmers after checking with the Ministry what numbers are available - like car registrations. As the tags are supplied, BCMS produces matching passport application forms, either in English and Welsh or just English.

The passport application form shows the farmer's name, postal address, farm and herd numbers, calf's parental tag numbers and its date of birth. The farmer tags the animal and sends off the application. If the animal is moved, the seller must advise BCMS, as must every individual or organisation in the chain of movement - including the market auctioneer or agent during a sale abroad, for example.

...our information is extremely accurate

Postcards included in the passport pack for every animal show its individual barcoded registration. Labels are also provided to speed up, simplify and ensure the accuracy of the process as much as possible. Each person in the chain simply sticks on the appropriate label(s) and completes the minimal information required such as date of transaction and a tick box to indicate whether the animal is being sold on alive or to go for meat etc. BCMS cross-

checks all the information to ensure no 'holes' exist in the record of that animal's movements. Increasingly farmers are opting to use more technology and they can use electronic mail instead of pre-paid cards.

Imported animals must also be registered. If they are bought in for slaughter, their papers go direct to BCMS. If they are to stay for breeding or other purposes, they are only accepted with complete health and identity papers and re-registered on the UK passport system, but using their existing tag number.
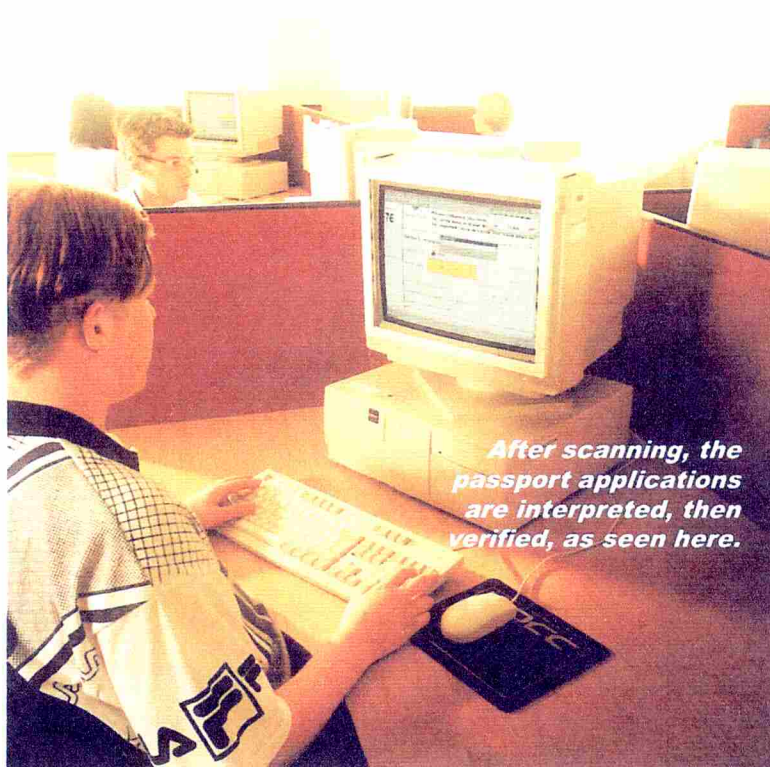
BCMS uses five production scanners through which all the passport applications or movement forms are fed in batches of like-documents, and three flat-

bed scanners for processing damaged papers and all correspondence. Every letter received by BMCS is scanned and stored in the SEECHECK system and then destroyed, saving huge amounts of ▶

Picture shows systems manager John Drake who is responsible for all the major systems within BCMS at Workington which interface with the core MAFF systems.

After scanning, the passport applications are interpreted, then verified, as seen here.
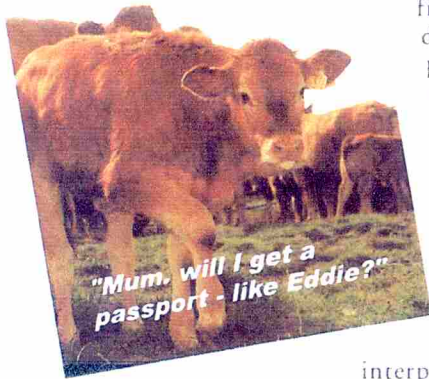
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storage space for the organisation. Correspondence is linked to the relevant farmer, herd number or even a particular animal, speeding up the response process.

The hardware comprises: two fileservers with dual 333MHz processors, networked to six scan stations, three interpreter, eleven verifier and five retrieval stations. Thirty people work on verifying/interpreting the data and ten rotate on the scanning tasks. All paperwork is manually checked under a pre-process system, to pick up obvious errors or omissions (from badly written numbers to gaps in the history of an animal's sale), to reduce problems likely to slow down the ROCC SEECHECK software. Two optical disk 'jukeboxes' handle all the storage requirements.

"Mum, will I get a passport - like Eddie?"

The cheque book style cattle passports..

At the moment the service is free, but this is changing from September 1999. Says Evans: "We believe the system has already proved itself and farmers appreciate the benefits."

The ROCC SEECHECK system is viewed as a vital element of the success of the BCMS in re-establishing a positive reputation for British cattle and meat products. According to David
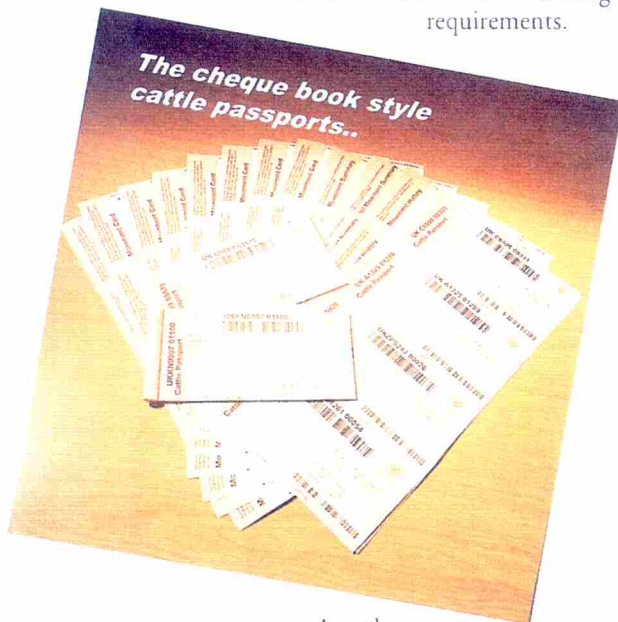

Part of the sophisticated cattle passport printing facility.

Evans: "The ROCC system has yet to achieve its full potential but, within the limits of any software system which relies on the integrity of the data fed into it, means that our information is extremely accurate. Processing the volumes of data involved would otherwise cost far more in terms of human resources and time."
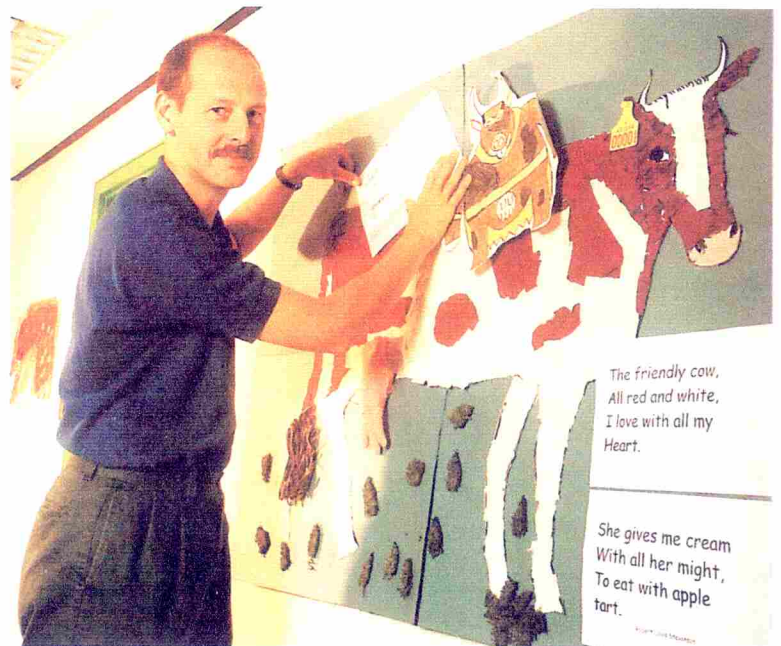
Evans concludes: "The fact that the system brings transparency to the whole process of cattle and meat production in the UK has quickly won over the sceptics. Our enquiry line, for example, allows anyone with a reason to enquire about the history of an animal. The extent of the system, with its ability to track an animal's history from birth to butcher's slab, has undoubtedly helped us to regain buyers' confidence in British meat products."

The friendly cow,
All red and white,
I love with all my
Heart.

She gives me cream
With all her might,
To eat with apple
tart.

Local schools took an interest in the cattle tracing system and hundreds of paintings and imaginative pieces of artwork were submitted by pupils and many of these are displayed on the walls at BCMS. Our picture shows head of operations David Crellin with a particularly striking piece of work.