Learn More about EID

& its use with Farmit 3000

Document version 07/08

Learn more about Electronic IDentification – EID (RFID)

Historical Overview

EID is probably the most controversial subject to hit the sheep industry in the UK since anyone can remember and probably since farm records began. It is very misunderstood and has had a very bad press. Welsh and English trials have been conducted and results were not good, leading to further bad press and confusion and scepticism within the industry. This was not however without a certain amount of truth. Companies on the trial did make errors and some systems simply did not work, however this was in some respects rather unfair on EID.

Electronic Identification using radio frequency devices is not new technology. Originally developed in the early 1970's by Texus Instruments, RFID, as it is known, is actually in use all around us. The dairy industry has been using it for years, clothes shops tag their woolly jumpers with it to stop them being stolen (rather easier when the woolly jumper is dead!), EID chips are even used to track packages and pass on cooking instructions to microwaves!

We should also look at what it actually does for us and why we would want to use it. EID is merely a means of identifying an object (in our case the animal). An EID chip contains a unique number and an EID reader can electronically read that number. This is very similar to a barcode reader reading a barcode on the side of a can, with one exception - if the barcode is dirty the barcode reader will not read. Just like you trying to read a printed sheep tag covered in dirt.

So ..

"EID gets us an identification number without the need to manually read the ear tag number."

However that is the easy bit! The real problems have either already happened or are about to start and lots can now go wrong if the system is not very well thought out and designed. Maybe at this point we need to ask a quick question.

"Do we want to collect information about the animal?"

Without the need to collect breeding information, record movements or Vet and Med by individual ear tag number you do not need to read an ear tag number, and if you don't need to, EID will not help you.
However if you need to collect data on animals or simply get a list of animal ear tags numbers for your Vet and Med book then ……

"EID can save you considerable time and be much, much more accurate if you need to read an animal ear tag."

As we said above EID only identifies the animal, what data we then collect and what we do with that data is actually nothing to do with EID but the design and processing of the computer software. Completing a movement document, recording Vet and Med, or simply finding an animal record is all about the design of the system, and of course you all have slightly different ideas about what exactly it should do.

“The successful use of EID on a Farm depends much more on the design of the system software than it actually does on the process of reading the EID.”

So if we use EID and have a well-designed computer system then that’s great, but what about the tags. Ah yes tags - probably the second most controversial subject! Well the EID system relies on the tag or bolus, and of course they do come out, however I have heard it said by a farmer that tagging is useless and that tags come out, and that therefore EID simply will not work.

Well again some of this is true, poor tag design and, equally important, poor tagging, can lead to poor tag retention in the animal, just as the time of year when tagging can lead to higher risk of infection. Tags are getting better and as far as we are aware most of the pedigree breed societies actually have society tags. So it would be rather strange to say that tags just don’t work.

“Tags do work and stay in but you may need to improve your tagging technique”

EID Components: Boluses, Tags, Hand Held Readers and Race Reading

The RFID electronic transmitters (chips) used in EID come in a variety of types and sizes. Both pre-programmed and programmable devices are available but vary on price. The chip is normally pre-programmed and has a unique number. Depending on the system the electronic chips are then normally enclosed in glass capsules, which in turn are encased in a bolus or tag. Some manufactures encase the chips directly into the tags plastic.

Although chips enclosed in glass capsules are used as implants with dogs, the glass capsules are known to move or migrate within the body, for this reason this method is not allowed with sheep or cattle, we are therefore left with two options, Bolus or Tag.

EID Bolus

The Bolus is normally of ceramic construction with a glass chips inserted and sealed in after the production of the bolus. Various sizes are made and guidelines are available covering their use with animals. They are not normally inserted into lambs younger than six months.

Although the bolus sounds a good idea two points should be remembered.

Firstly bolus’s can be lost, regurgitated or pased through the body. Regurgitation is a major problem particularly if the bolus is given to the animal on a full stomach. Loss of a bolus causes considerable time delay when reading the animal for one very basic reason, you can not actually see its not there and therefore have to use the reader to ‘search’ for it. Compared that to a tag which is instantly identified as missing.

Secondly the bolus will sit at the bottom of the rumen and therefore is difficult to read with a hand held reader, especially in a race, although a stick antenna can help this situation.

EID Tags

EID tags may be purchased blank or with flock and individual numbers printed on them. Blank tags are for tagging existing animals that require the tag EID number to be linked to the existing ear tag. Tags have the advantage of being easy to read with a hand held reader and easily identified as missing.

Tag retention is of course an issue but with careful tagging and good tag design can be minimised. However we would recommend double tagging, with one tag being an EID tag.

EID Numbers and Ear Tag Numbers

At the time of writing this manual most EID tags are normally printed up with your Farm prefix and a 6 digit animal number, in the form UK700977100001 however the EID chip has a unique 16 digit number in the form 0974500003452. It is this rather useless number that most readers display.

The EID tags themselves are also manufactured in two electronic format called FDX and HDX. This related to the way the electronic chip communicates with the reading device. This would of course be irrelevant to system except that HDX tags have a far better read range than FDX tags.

Both of the hand held readers described in this leaflet can read both formats without any real problems and read range when using a hand held reader is almost unimportant, as you have to be close enough to be able to touch the tag anyway.

Given that the tag is currently programmed with a 16 digit number which means little to the actual animal, when a tag is fitted to an animal the tag needs to be linked to the ear tag number of the animal. This requirement may be changed in the near future as it is hoped that the tags will eventually be programmed with the ear tag number. However currently this is the situation.

This linking of electronic number to the animals tag number can of course be done during the manufacture process of the sheep tag.

When you order Sheep Tags with EID chips in them, the manufacturer will normally supply a computer file containing the list of EIDs and associated tag number, this is often referred to as the ‘tag bucket’.

This file identifies the Tag Number to be linked to the EID and we may load this tag bucket into the reader so that when the reader is used to read the animal EID it displays the animals actual ear tag number.

If a Bolus is used no tag bucket is provided and the EID of the bolus needs to be manually linked to the ear tag number using the reader,

Hand Held Readers

Much talk is given to automated race systems, however every task you are likely to want to do can be done with a hand held reader and they are a fraction of the price of a race reader/handling system. If you intend to collect lambing data, a hand held unit is of course a must, and therefore even if you intend to have an automated EID weigh crate you are likely to need a hand held unit as well.

GES II Reader from Rumitag (GESIMPEX)

The GES II Reader is an ISO compatible reader for identification of animals by reading the electronic tag. It is a hand held device with an alpha numerical keypad, similar to a mobile phone, allowing you to enter data associated with a read animal. The actual data you are prompted to record depends on the configuration of the reader.

The reader is thus supplied with software allowing the configuration of the reader, software to upload EID data and download collected data, a power supply for charging the reader and a communications lead to allow your computer to talk to the reader via a standard RS232 serial communications port.

FarmIT 3000 comes complete with export and import routines allowing you to exchange data to and from the reader, and with reconfigured definition files (tasks) to configure the reader ready for use.

GES II Reader from Rumitag

APR350 from Agrident

The APR350 Reader is an ISO compatible reader for identification of animals by reading the electronic tag. It is a hand held device with an alpha numerical keypad, similar to a mobile phone, allowing you to enter data associated with a read animal. The actual data you are prompted to record depends on the configuration of the reader.

The reader is supplied with software allowing the setup of the reader, software to upload EID data and download collected data, a power supply for charging the reader and a communications lead to allow your computer to talk to the reader via a standard USB serial communications port.

FarmIT 3000 has export and import routines allowing you to exchange data to and from the reader, and with reconfigured definition files (tasks) to configure the reader ready for use.

The APR range of readers with software version 3.00 + can be used exactly the same as the GES II reader.

APR350 from Agrident

To be useful a hand held unit must be capable of at least producing a list of animals read that day and be programmable, allowing you to collect any data you wish. Both the GES II and APR readers do this.

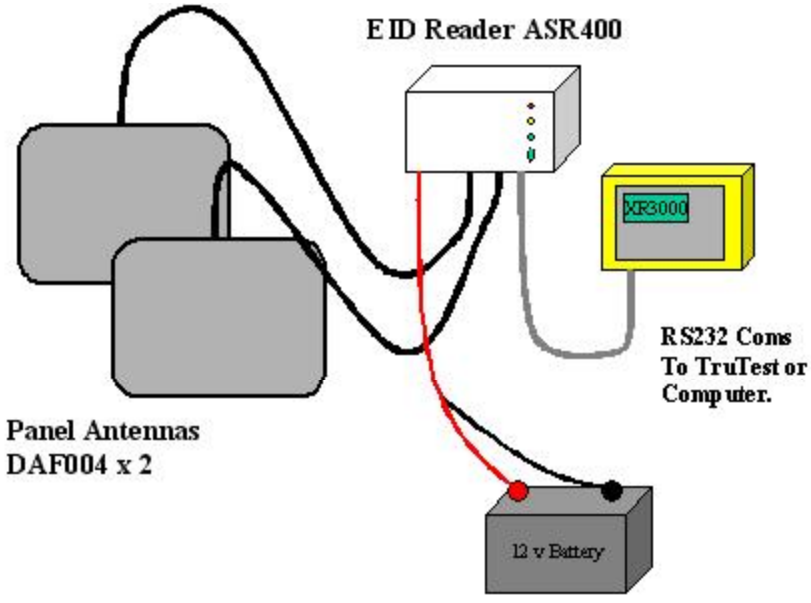
Static Race or Panel Readers

EID Static Panel readers (race readers) differ from hand held readers in that they are normally static e.g. bolted to a weigh crate etc. They also only read the EID and transmit the EID via a Coms port or blue tooth signal to another device. This device maybe a weigh head such as a TruTest XR3000, SR3000 or JR3000 or a computer (laptop etc) and may be able to recall 'life data' about an animal that was loaded into the device at an earlier time.

The term panel refers to the EID antenna (or antenna's) which being a series of wire loops are often moulded into a plastic panel. They do tend to be expensive as special wire known as 'Litz' wire is used in their manufacture. They are also available in a wide range of sizes to suit the application, some even designed for specific purposes.

The EID reader is normally powered by either a rechargeable internal battery or an external 12v Battery, for example we use car batteries for ours. If using a 12v Mains power supply care should be taken to avoid interference from having mains power around (i.e. mains cables etc) which can severely degrade the EID reading performance.

The basic panel system would therefore look as follows...



The better readers are configurable, particularly in terms of how they send the EID, for example in ASCII format, number of characters 15, 16 etc., some will only transmit the EID once whilst others will continue to read and send the EID. They also provide a means of auto tuning. Being based on radio technology just like your transistor radio needs to tune into a specific radio station, the EID reader and its antenna are tuned to the specific frequency of the EID tags. Unfortunately large pieces of metal, power cables etc. can affect this tune and severely affect read performance. Most panel readers therefore provide a means of adjusting the tune, for example the Agrident ASR400 has an auto tuning button, so all you have to do is press the button for the unit to automatically adjust its tuning for optimum reading within its surroundings.

Multiple antenna systems tend to work better (a panel on either side of the race or crate). Although one will work you may find that a single antenna seems to miss tags on the far side of the animal.

So what would we recommend? The Agrident ASR400 with two 60cm x 50cm panels fitted either side of the crate is hard to beat. When used in conjunction with a TruTest XR3000 and a set of weigh bars, you have an exceptionally robust and versatile system, allowing you not only to weigh but even auto draft (with the appropriate crate).

It is of course even possible to fit this equipment to an existing weigh crate, for example if you already have an electronic weigh crate, then don't think it's not possible to retro fit EID to it. In terms of performance panel readers provide an automatic read of the EID, unlike a hand held reader they are suited to automated systems like weighing. Although you can easily use a hand held reader for collecting weigh data, you may feel you need something quicker or even fully automated. This is where panel readers and TruTest XR3000's come into their own. For example using an XR3000 and a Prattley 3 way drafter it is possible to weigh and draft with ease and, with an operator, even remotely control the entry gate.

This is of course not a cheap solution; the EID panel reader and its antenna are going to cost you £500 - £800. The weigh-head may cost up to £1200, although a laptop may be found for under £150. Weigh bars may add as much as another £400. Adding this all up and your definitely the other side of £1500 - £2000. However if you are weighing and drafting animals regularly this is the solution!

The XR3000, SR3000, JR3000 from Tru-test

The Tru-test XR3000, SR3000 and JR3000's provide an extremely easy to use, reliable and efficient way of weighing and collecting animal data. When combined with an EID panel reader, you can weigh and record the weight against an animal record with a single button confirmation.

All readers communicate with the PC via standard RS232 communications, allowing us to load EID information and in the case of the XR3000 life data (information about the animal) into the reader, and download animal weight data from the readers.
FarmIT 3000 comes complete with export and import routines allowing you to exchange data to and from the Tru-Test unit. There is a separate booklet available describing these routines.

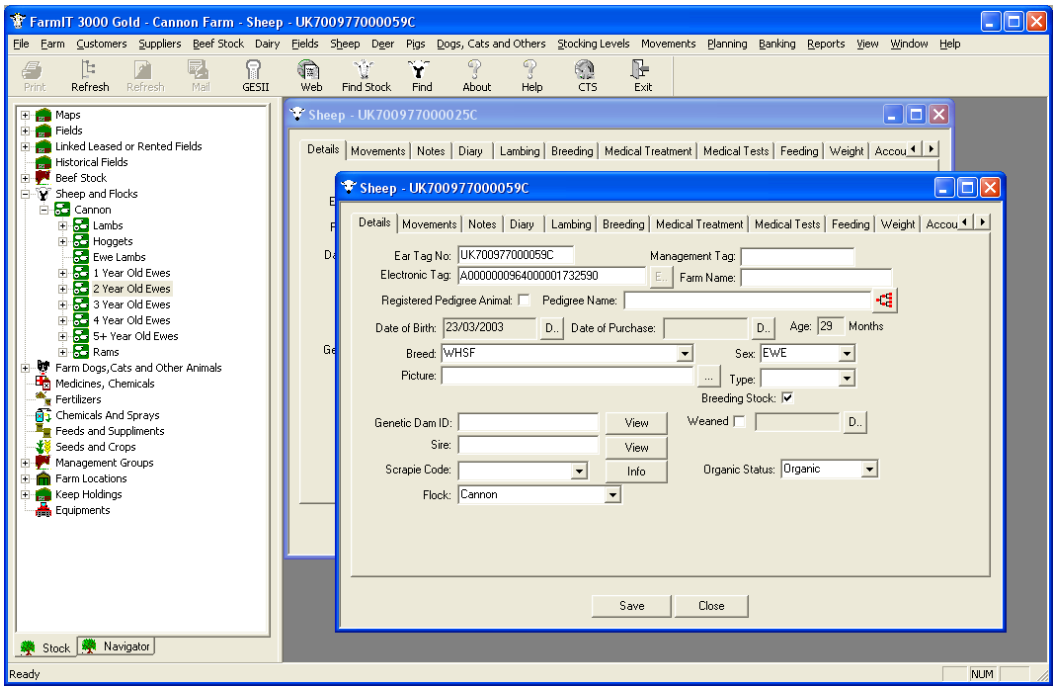
Using EID with FarmIT 3000 – Farm Management Software for Organic and Conventional Farmers

FarmIT 3000 & FarmIT 3000 Gold (Accounts) provide a comprehensive management system for your farm, encompassing tools for the management of:

- beef stock
- sheep and flocks
- fields
- farm dogs
- control of medicines, chemicals & fertilisers
- customers
- suppliers
- sales
- purchasing reports for Organic and Farm Assurance schemes
- and much, much more

Animals are recorded in the system as individual records, which can include an electronic identification number (EID). You may record information about the animal including breeding information, vet and medical treatments, medical tests, weights and movements. Animals may be treated either individually or in groups, or you may select the animals from a list.

However it is at this stage that keeping individual animals on a computer can seem a little difficult. The main problem being that once you have more than around 100 animals it is not only very difficult to select them from large lists but also very time consuming if you need to type them in. This is where EID readers can really help as you can scan and identify the animal in the field and simply import the list of animals onto the computer.



Lambing, scanning and weight data may also be captured by the EID reader and imported into the software directly, thus eliminating the need to type in the data. This will save considerable time, leaving more time for the analysis of the data collected.

Reader Data – Data Collection Tasks

Reading an EID tag in the field is with one exception of getting a list of animals a rather basic task and normally we would want to collect additional information associated with the animal. For example we may be required to collect lambing information or weights.

Both the GesII and Agrident handheld readers provide us with the ability to program data collection tasks rather than just read an EID number. This program we call the ***TASK*** and we have written many tasks designed to collect various bits if data, with variations for various circumstances. For example tagging lambs with EID tag or manual tags.

You may download and configure the reader from within the FarmIT 3000 software via GESII Reader or Agrident Control Panels.

EID Reader Tasks (Program Definitions)

The readers can be configured to collect a wide range of data all based upon the animals EID. There is a comprehensive programming manual produced by GSImpex (RUMI TAG) detailing just how you do this for the GES II Reader. We have, however, done this bit for you and produced a number of programs representing the physical tasks we believe you may wish to perform. These tasks are of course designed specifically to interface with the FarmIT 3000 Software, so you can quickly gather and upload the data into FarmIT, so there may be some limitations. However we are keen to provide further tasks and options as users provide us with feedback, so if the task does not quite fit then we will be happy to modify it or produce others.

The GES II Reader is designed to hold a maximum of 5 tasks. The Agrident APR 350 can similarly hold 5 task but has the advantage of assigning these tasks to the Functions Keys F1 – F5. So all you need do to switch tasks is simply select the function key. However loading five tasks can provide limitations when working with large numbers of sheep as each task takes up reader memory so you get less sheep records (i.e. information it can hold) if you load more tasks than needed.

With the GES II reader the there is an issue of the practicality of switching between tasks in the field (or race). It actually takes about 4 –5 clicks of the big red button to switch from one task to another. You may be able to do this as a one off for the odd animal, but if you have to change from one task to another for every animal in the race you will soon get very bored. For this reason we have produced a number of combined tasks for example weigh and group.

The current list of available tasks is as follows:

Sheep Setup

Designed to collect the basic data required about the animal in order to import and create the animal records within the FarmIT Database. It would typically be used during initial set-up, either when you initially buy FarmIT 3000 or when you decide to tag your sheep. It may also be used when introducing new animals to your farm or tagging lambs that are not recorded and tagged during lambing. It collects the animals EID, Ear Tag Number, SEX, BREED and AGE

Sheep Setup + Farm Tag

As sheep set-up but with the additional option to enter a farm management tag.

Sheep Set-up + Group

As sheep set-up but with the additional option to enter a group number for grouping the animals.

Sheep Set-up + Farm Tag + Group

See above.

Set Farm Tag

Read the ewe and enter its farm management tag.

Group Selection

Read the EID then enter a simple group number, 0 – 9. This effectively lets you create 10 lists of animals. We may then use this group number to create management groups, record tupping, treatments, feeding or movements based on the lists created.

Movement

Read the EID and apply a default group number of 1. You are prompted to read the animal EID only. This effectively produces a single list of animals. We may then use this list to create an animal movement or single management group. It varies only from the Group Selection task in that you do not need to press a key representing the group number therefore may be a bit quicker.

Scanning

Scanning is designed to read the animal EID then enter a number representing the number of lambs, 0 – 5. We may then import the lists to create scanning records for the animals

Weighing

Weighing is designed to allow you to read the animal EID then enter the weight for example 35.45 followed by a condition score 0 – 5. You may then import this data directly into FarmIT 3000.

Weight and Group

Weight and group allows you to collect the weight data but also then group the animals by entering a group number. You may then import the weight data and use the same data to group the animals, either into a management group, movement or treatment.

Lambing – Auto – EID Lamb Tags

Lambing-Auto is designed to allow you to collect all the details of the lambing, including reading the ewe and then the tags and EID numbers of the lambs, identifying if they are alive or dead and collecting information of the breed and sex of the lambs. You may then import this data into FarmIT 3000, which will automatically create the lambing record for the ewe and create the new individual records for all live lambs.

Lambing – Manual – Standard Lamb Tags

Lambing-Manual is designed to allow you to collect all the details of the lambing, including reading the ewe and then the tags and entering the numbers of non-EID tags in the lambs, identifying if they are alive or dead and collecting information of the breed and sex of the lambs. You may then import this data into FarmIT 3000, which will automatically create the lambing record for the ewe and create the new individual records for all live lambs.

Lambing – Numeric – Lambs NOT Tagged

Lambing-Numeric is designed to capture details of the lambing e.g. number of lambs and sex of lambs, but not individual tag numbers of the lambs to allow you to analyse ewe performance whilst not needing to tag the lambs at birth. You may then import the data creating the lambing records for the ewes but the lambs are recorded as untagged and no individual lamb records are created.

Lambing – Ewe No.

Lambing-Ewe No. is specifically designed for those of you who lamb outdoors and use a management number to identify the ewe. Using the EID reader to collect the data, we can simply type in the management number, rather that have to catch and scan the ewe. The lambs are caught and tagged using EID tags which are then read. This of course only works if your management numbers are readable from a distance. However this method has proved very propular and successful.

Fostering

Fostering allows the reading of the ewe, the reading of the lamb and the confirmation of lamb added or lamb removed.

Sheep Traits

The traits routine provides you with a routine to read the animal, select a trait (from the list of defined breeding traits with the FarmIT software) and score the animal on the trait. This may then be imported.

Milking (Dairy Producers)

The milking routine is design to collect the data from the milking parlour, recording for each ewe the quantity of milk produced. You may import this data into FarmIT 3000 to create individual animal milking records

Uses for the data - ANALYSIS

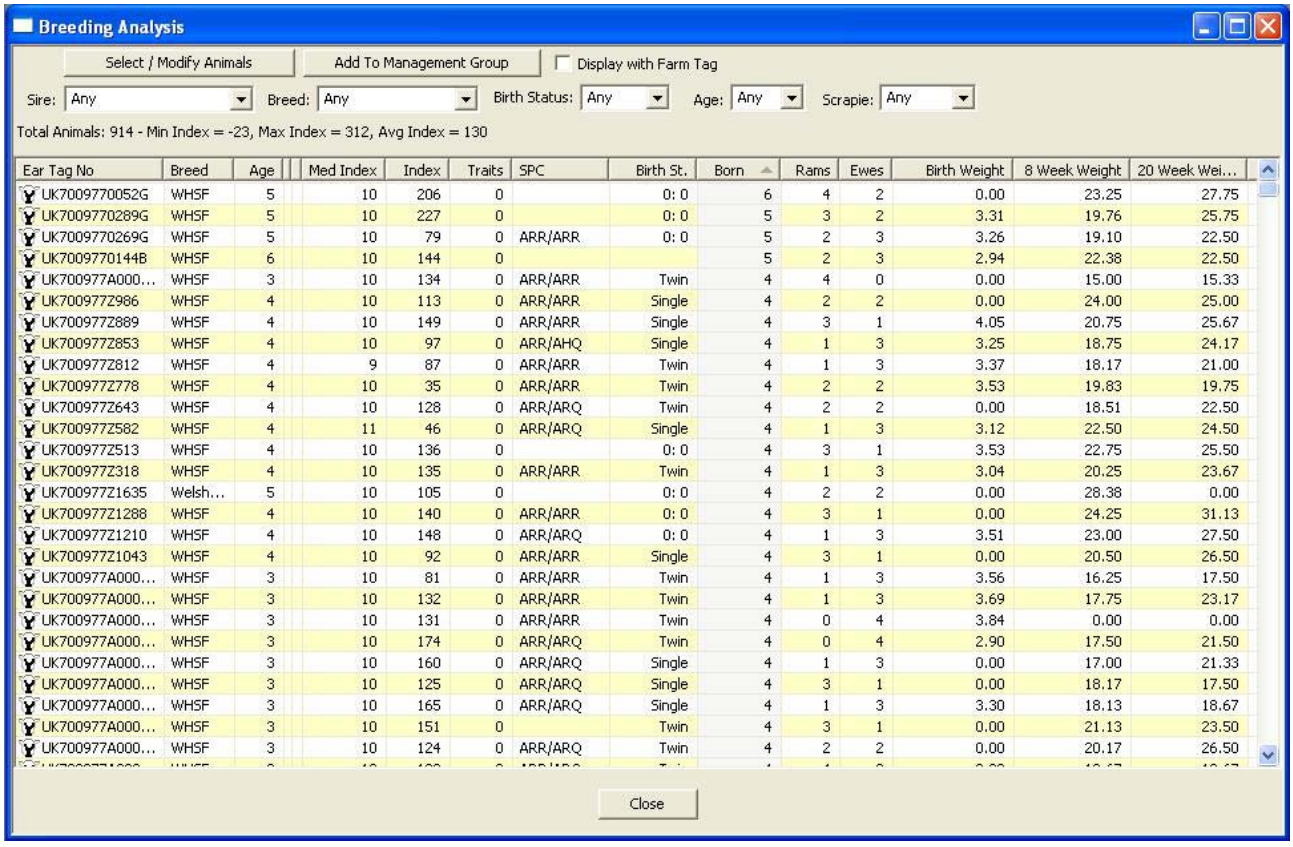
Once the data is collected, FarmIT 3000 really starts to help with breeding analysis, weighing analysis and graphical tools to decipher the mass of data. You may even export the report to Microsoft Excel for further analysis, or link directly to the FarmIT database which is a standard Microsoft Access database file to further analyse your data.

The reports have been designed to meet the requirements for Farm Assurance and Organic Schemes, with FarmIT 3000 being supported by the Soil Association and Organic farmers and Growers.

The followings samples show data from Cannon Farm in Mid Wales, and is shown by kind consent of Mr Nigel Elgar who has been recording with FarmIT 3000 for over 3 years. Nigel has over 1000 breeding ewes and produces over 1200 lambs a year. The reports shown are directly available within the software and require no other manipulation other than clicking on the reports menu. These samples show only a small selection of the reports available and more and better tools are being added. Please check the Farm IT Help for details.

Breeding Performance.

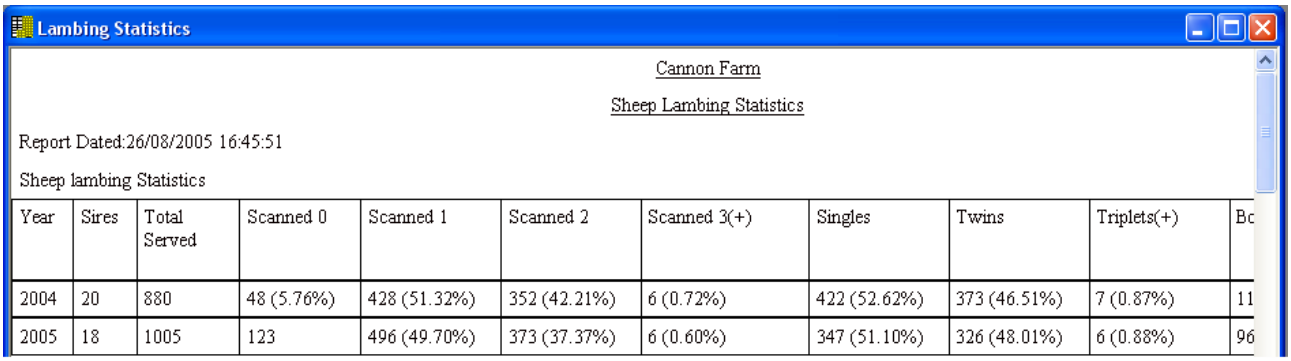
The breeding analysis tool may be used to analyse both dam (ewe or cow) and sire (Ram or Bull) performance, in regard to number of offspring, number of medical treatments, breeding index and average weights of offspring (based on weighing points). You may also filter the listed animals based on breed, sire, birth status age and scrapie code (sheep only).



Ear Tag No	Breed	Age	Med Index	Index	Traits	SPC	Birth St.	Born	Rams	Ewes	Birth Weight	8 Week Weight	20 Week Wei...
UK7009770052G	WHSF	5	10	206	0		0: 0	6	4	2	0.00	23.25	27.75
UK7009770289G	WHSF	5	10	227	0		0: 0	5	3	2	3.31	19.76	25.75
UK7009770269G	WHSF	5	10	79	0	ARR/ARR	0: 0	5	2	3	3.26	19.10	22.50
UK700977O144B	WHSF	6	10	144	0			5	2	3	2.94	22.38	22.50
UK700977A000...	WHSF	3	10	134	0	ARR/ARR	Twin	4	4	0	0.00	15.00	15.33
UK700977Z986	WHSF	4	10	113	0	ARR/ARR	Single	4	2	2	0.00	24.00	25.00
UK700977Z889	WHSF	4	10	149	0	ARR/ARR	Single	4	3	1	4.05	20.75	25.67
UK700977Z853	WHSF	4	10	97	0	ARR/AHQ	Single	4	1	3	3.25	18.75	24.17
UK700977Z812	WHSF	4	9	87	0	ARR/ARR	Twin	4	1	3	3.37	18.17	21.00
UK700977Z778	WHSF	4	10	35	0	ARR/ARR	Twin	4	2	2	3.53	19.83	19.75
UK700977Z643	WHSF	4	10	128	0	ARR/ARQ	Twin	4	2	2	0.00	18.51	22.50
UK700977Z582	WHSF	4	11	46	0	ARR/ARQ	Single	4	1	3	3.12	22.50	24.50
UK700977Z513	WHSF	4	10	136	0		0: 0	4	3	1	3.53	22.75	25.50
UK700977Z318	WHSF	4	10	135	0	ARR/ARR	Twin	4	1	3	3.04	20.25	23.67
UK700977Z1635	Welsh...	5	10	105	0		0: 0	4	2	2	0.00	28.38	0.00
UK700977Z1288	WHSF	4	10	140	0	ARR/ARR	0: 0	4	3	1	0.00	24.25	31.13
UK700977Z1210	WHSF	4	10	148	0	ARR/ARQ	0: 0	4	1	3	3.51	23.00	27.50
UK700977Z1043	WHSF	4	10	92	0	ARR/ARR	Single	4	3	1	0.00	20.50	26.50
UK700977A000...	WHSF	3	10	81	0	ARR/ARR	Twin	4	1	3	3.56	16.25	17.50
UK700977A000...	WHSF	3	10	132	0	ARR/ARR	Twin	4	1	3	3.69	17.75	23.17
UK700977A000...	WHSF	3	10	131	0	ARR/ARR	Twin	4	0	4	3.84	0.00	0.00
UK700977A000...	WHSF	3	10	174	0	ARR/ARQ	Twin	4	0	4	2.90	17.50	21.50
UK700977A000...	WHSF	3	10	160	0	ARR/ARQ	Single	4	1	3	0.00	17.00	21.33
UK700977A000...	WHSF	3	10	125	0	ARR/ARQ	Single	4	3	1	0.00	18.17	17.50
UK700977A000...	WHSF	3	10	165	0	ARR/ARQ	Single	4	1	3	3.30	18.13	18.67
UK700977A000...	WHSF	3	10	151	0		Twin	4	3	1	0.00	21.13	23.50
UK700977A000...	WHSF	3	10	124	0	ARR/ARQ	Twin	4	2	2	0.00	20.17	26.50

Lambing Performance.

Breaks down the lambing records for analysis as a whole, providing year-by-year analysis of lambs born and lambing percentages.



Lambing Statistics

Cannon Farm

Sheep Lambing Statistics

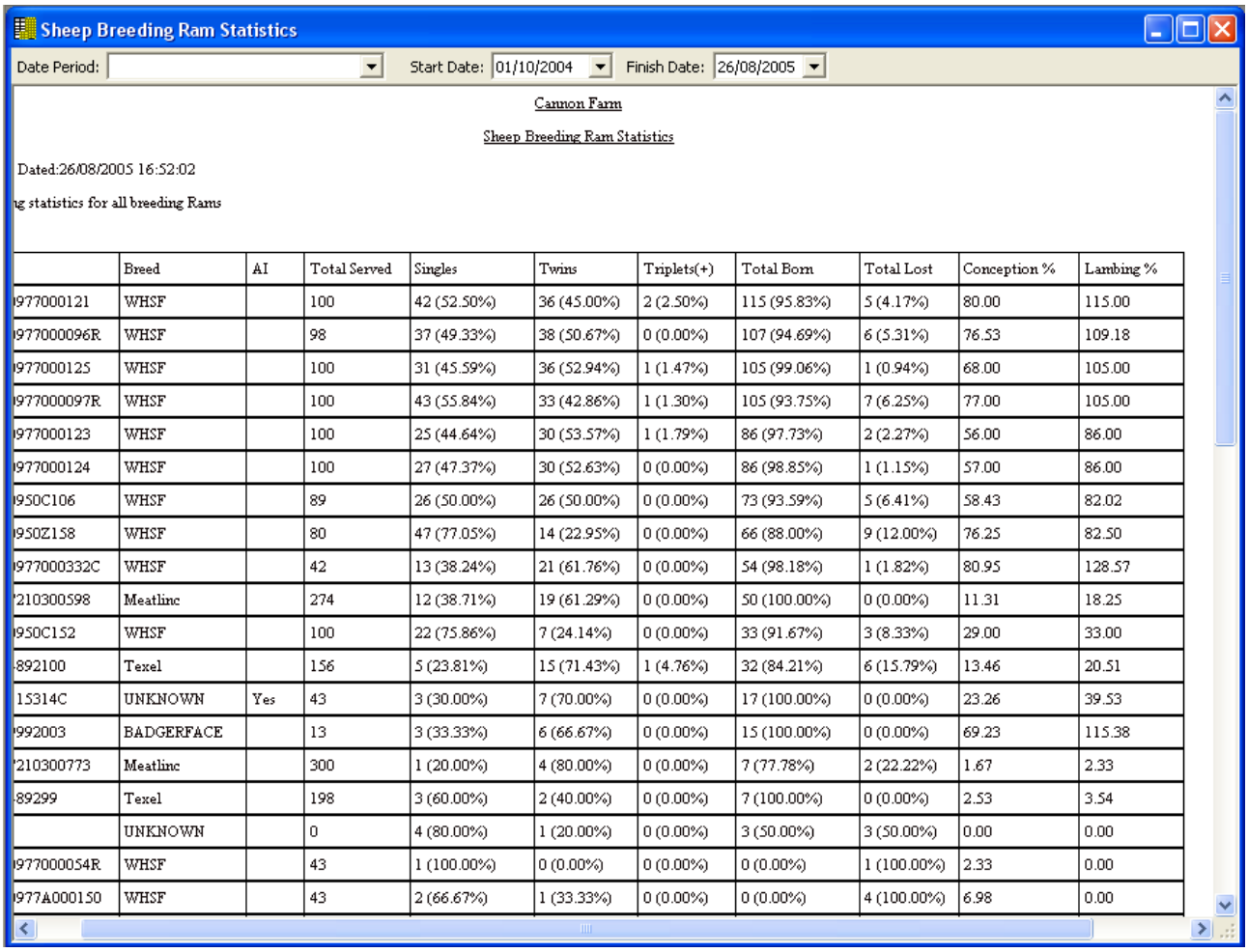
Report Dated:26/08/2005 16:45:51

Sheep lambing Statistics

Year	Sires	Total Served	Scanned 0	Scanned 1	Scanned 2	Scanned 3(+)	Singles	Twins	Triplets(+)	Bc
2004	20	880	48 (5.76%)	428 (51.32%)	352 (42.21%)	6 (0.72%)	422 (52.62%)	373 (46.51%)	7 (0.87%)	11
2005	18	1005	123	496 (49.70%)	373 (37.37%)	6 (0.60%)	347 (51.10%)	326 (48.01%)	6 (0.88%)	96

Sire Performance.

Identifies the performance of sires including conception rates and lambing percentages for individual sires.



Sheep Breeding Ram Statistics

Date Period: Start Date: 01/10/2004 Finish Date: 26/08/2005

Cannon Farm

Sheep Breeding Ram Statistics

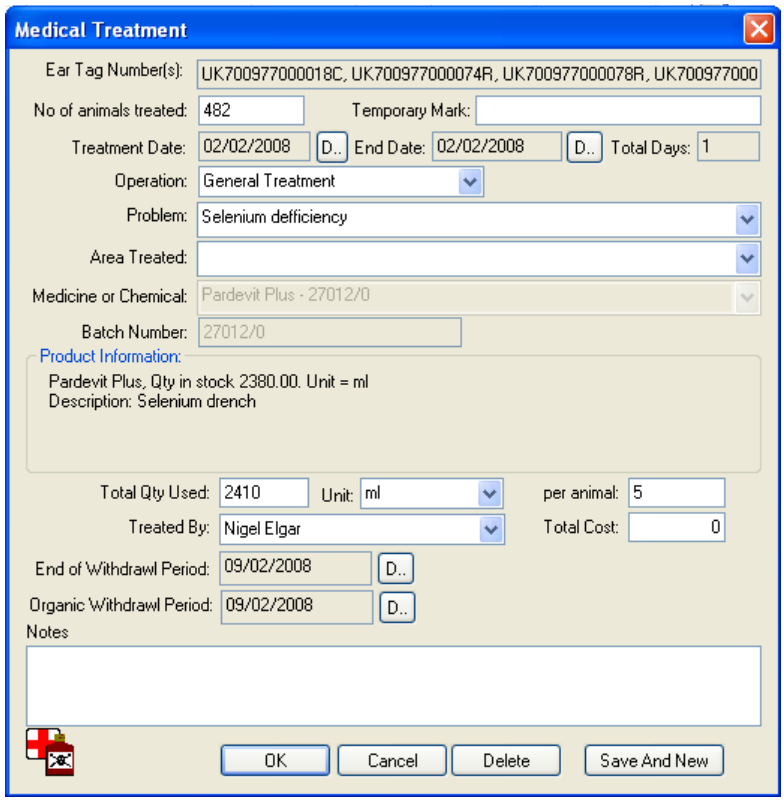
Dated:26/08/2005 16:52:02

ng statistics for all breeding Rams

	Breed	AI	Total Served	Singles	Twins	Triplets(+)	Total Born	Total Lost	Conception %	Lambing %
1977000121	WHSF		100	42 (52.50%)	36 (45.00%)	2 (2.50%)	115 (95.83%)	5 (4.17%)	80.00	115.00
1977000096R	WHSF		98	37 (49.33%)	38 (50.67%)	0 (0.00%)	107 (94.69%)	6 (5.31%)	76.53	109.18
1977000125	WHSF		100	31 (45.59%)	36 (52.94%)	1 (1.47%)	105 (99.06%)	1 (0.94%)	68.00	105.00
1977000097R	WHSF		100	43 (55.84%)	33 (42.86%)	1 (1.30%)	105 (93.75%)	7 (6.25%)	77.00	105.00
1977000123	WHSF		100	25 (44.64%)	30 (53.57%)	1 (1.79%)	86 (97.73%)	2 (2.27%)	56.00	86.00
1977000124	WHSF		100	27 (47.37%)	30 (52.63%)	0 (0.00%)	86 (98.85%)	1 (1.15%)	57.00	86.00
1950C106	WHSF		89	26 (50.00%)	26 (50.00%)	0 (0.00%)	73 (93.59%)	5 (6.41%)	58.43	82.02
1950Z158	WHSF		80	47 (77.05%)	14 (22.95%)	0 (0.00%)	66 (88.00%)	9 (12.00%)	76.25	82.50
1977000332C	WHSF		42	13 (38.24%)	21 (61.76%)	0 (0.00%)	54 (98.18%)	1 (1.82%)	80.95	128.57
7210300598	Meatlinc		274	12 (38.71%)	19 (61.29%)	0 (0.00%)	50 (100.00%)	0 (0.00%)	11.31	18.25
1950C152	WHSF		100	22 (75.86%)	7 (24.14%)	0 (0.00%)	33 (91.67%)	3 (8.33%)	29.00	33.00
892100	Texel		156	5 (23.81%)	15 (71.43%)	1 (4.76%)	32 (84.21%)	6 (15.79%)	13.46	20.51
15314C	UNKNOWN	Yes	43	3 (30.00%)	7 (70.00%)	0 (0.00%)	17 (100.00%)	0 (0.00%)	23.26	39.53
992003	BADGERFACE		13	3 (33.33%)	6 (66.67%)	0 (0.00%)	15 (100.00%)	0 (0.00%)	69.23	115.38
7210300773	Meatlinc		300	1 (20.00%)	4 (80.00%)	0 (0.00%)	7 (77.78%)	2 (22.22%)	1.67	2.33
89299	Texel		198	3 (60.00%)	2 (40.00%)	0 (0.00%)	7 (100.00%)	0 (0.00%)	2.53	3.54
	UNKNOWN		0	4 (80.00%)	1 (20.00%)	0 (0.00%)	3 (50.00%)	3 (50.00%)	0.00	0.00
1977000054R	WHSF		43	1 (100.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (100.00%)	2.33	0.00
1977A000150	WHSF		43	2 (66.67%)	1 (33.33%)	0 (0.00%)	0 (0.00%)	4 (100.00%)	6.98	0.00

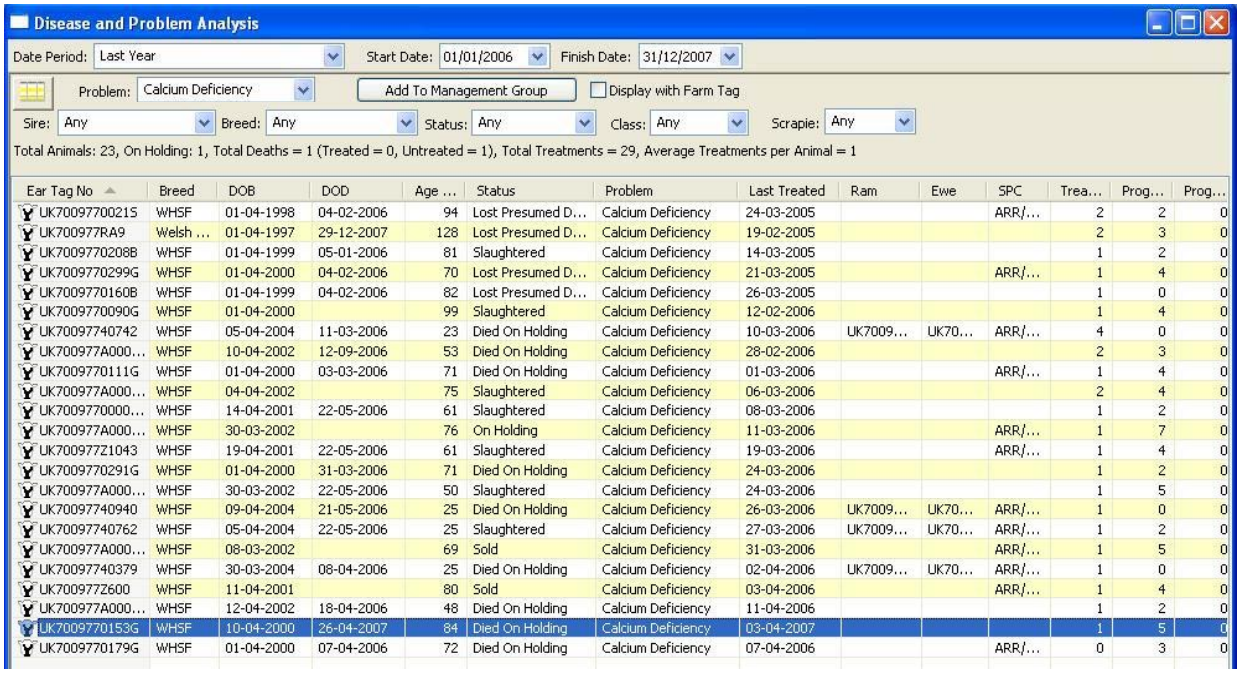
Treatments

Treatment records (picture below) result in summary and detailed treatment reports.



Problems and Diseases Analysis

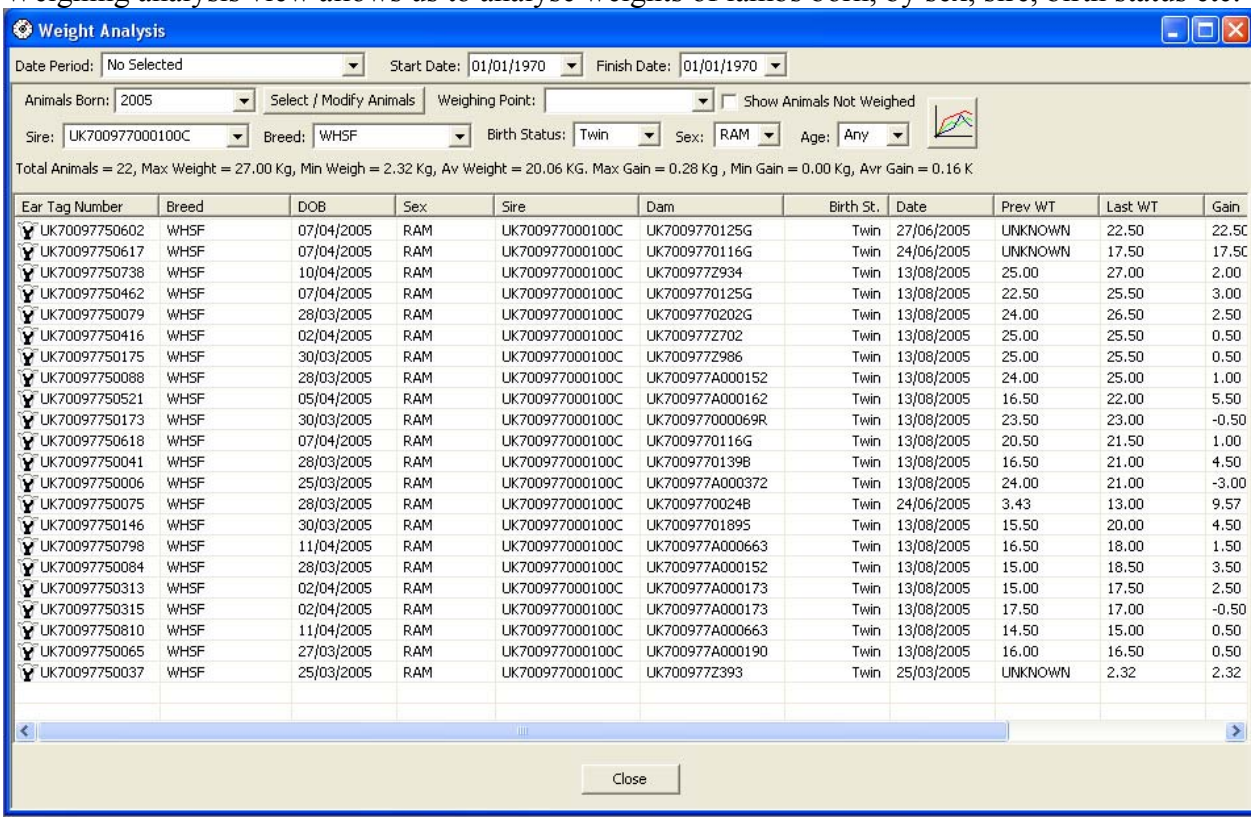
Problems and diseases are captured as part of the treatment and death records and allow us to analyse sickness, deaths and treatments year upon year.



Ear Tag No	Breed	DOB	DOD	Age ...	Status	Problem	Last Treated	Ram	Ewe	SPC	Trea...	Prog...	Prog...
UK7009770021S	WHSF	01-04-1998	04-02-2006	94	Lost Presumed D...	Calcium Deficiency	24-03-2005			ARR/...	2	2	0
UK700977RA9	Welsh ...	01-04-1997	29-12-2007	128	Lost Presumed D...	Calcium Deficiency	19-02-2005				2	3	0
UK7009770208B	WHSF	01-04-1999	05-01-2006	81	Slaughtered	Calcium Deficiency	14-03-2005				1	2	0
UK7009770299G	WHSF	01-04-2000	04-02-2006	70	Lost Presumed D...	Calcium Deficiency	21-03-2005			ARR/...	1	4	0
UK7009770160B	WHSF	01-04-1999	04-02-2006	82	Lost Presumed D...	Calcium Deficiency	26-03-2005				1	0	0
UK7009770090G	WHSF	01-04-2000		99	Slaughtered	Calcium Deficiency	12-02-2006				1	4	0
UK70097740742	WHSF	05-04-2004	11-03-2006	23	Died On Holding	Calcium Deficiency	10-03-2006	UK7009...	UK70...	ARR/...	4	0	0
UK700977A000...	WHSF	10-04-2002	12-09-2006	53	Died On Holding	Calcium Deficiency	28-02-2006				2	3	0
UK7009770111G	WHSF	01-04-2000	03-03-2006	71	Died On Holding	Calcium Deficiency	01-03-2006			ARR/...	1	4	0
UK700977A000...	WHSF	04-04-2002		75	Slaughtered	Calcium Deficiency	06-03-2006				2	4	0
UK7009770000...	WHSF	14-04-2001	22-05-2006	61	Slaughtered	Calcium Deficiency	08-03-2006				1	2	0
UK700977A000...	WHSF	30-03-2002		76	On Holding	Calcium Deficiency	11-03-2006			ARR/...	1	7	0
UK700977Z1043	WHSF	19-04-2001	22-05-2006	61	Slaughtered	Calcium Deficiency	19-03-2006			ARR/...	1	4	0
UK7009770291G	WHSF	01-04-2000	31-03-2006	71	Died On Holding	Calcium Deficiency	24-03-2006				1	2	0
UK700977A000...	WHSF	30-03-2002	22-05-2006	50	Slaughtered	Calcium Deficiency	24-03-2006				1	5	0
UK70097740940	WHSF	09-04-2004	21-05-2006	25	Died On Holding	Calcium Deficiency	26-03-2006	UK7009...	UK70...	ARR/...	1	0	0
UK70097740762	WHSF	05-04-2004	22-05-2006	25	Slaughtered	Calcium Deficiency	27-03-2006	UK7009...	UK70...	ARR/...	1	2	0
UK700977A000...	WHSF	08-03-2002		69	Sold	Calcium Deficiency	31-03-2006			ARR/...	1	5	0
UK70097740379	WHSF	30-03-2004	08-04-2006	25	Died On Holding	Calcium Deficiency	02-04-2006	UK7009...	UK70...	ARR/...	1	0	0
UK700977Z600	WHSF	11-04-2001		80	Sold	Calcium Deficiency	03-04-2006			ARR/...	1	4	0
UK700977A000...	WHSF	12-04-2002	18-04-2006	48	Died On Holding	Calcium Deficiency	11-04-2006				1	2	0
UK7009770153G	WHSF	10-04-2000	26-04-2007	84	Died On Holding	Calcium Deficiency	03-04-2007				1	5	0
UK7009770179G	WHSF	01-04-2000	07-04-2006	72	Died On Holding	Calcium Deficiency	07-04-2006			ARR/...	0	3	0

Weighing Analysis

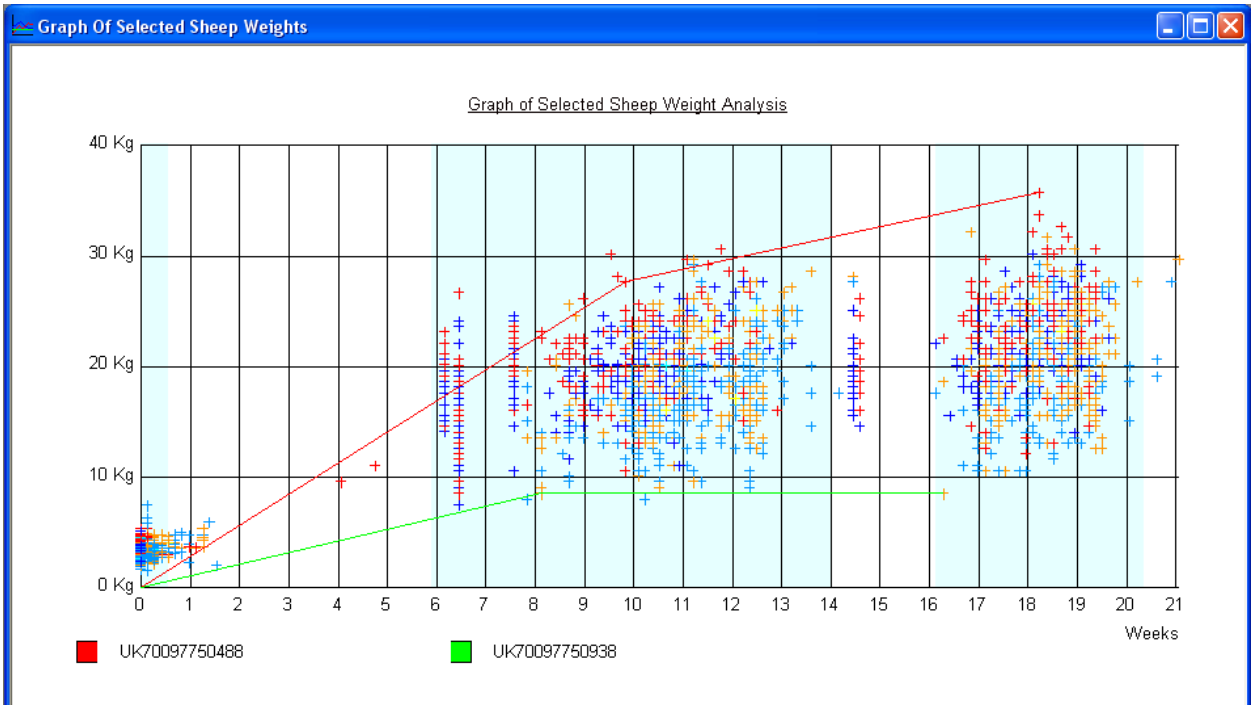
Weighing analysis view allows us to analyse weights of lambs born, by sex, sire, birth status etc.



Ear Tag Number	Breed	DOB	Sex	Sire	Dam	Birth St.	Date	Prev WT	Last WT	Gain
UK70097750602	WHSF	07/04/2005	RAM	UK700977000100C	UK7009770125G	Twin	27/06/2005	UNKNOWN	22.50	22.5C
UK70097750617	WHSF	07/04/2005	RAM	UK700977000100C	UK7009770116G	Twin	24/06/2005	UNKNOWN	17.50	17.5C
UK70097750738	WHSF	10/04/2005	RAM	UK700977000100C	UK700977Z934	Twin	13/08/2005	25.00	27.00	2.00
UK70097750462	WHSF	07/04/2005	RAM	UK700977000100C	UK7009770125G	Twin	13/08/2005	22.50	25.50	3.00
UK70097750079	WHSF	28/03/2005	RAM	UK700977000100C	UK7009770202G	Twin	13/08/2005	24.00	26.50	2.50
UK70097750416	WHSF	02/04/2005	RAM	UK700977000100C	UK700977Z702	Twin	13/08/2005	25.00	25.50	0.50
UK70097750175	WHSF	30/03/2005	RAM	UK700977000100C	UK700977Z986	Twin	13/08/2005	25.00	25.50	0.50
UK70097750088	WHSF	28/03/2005	RAM	UK700977000100C	UK700977A000152	Twin	13/08/2005	24.00	25.00	1.00
UK70097750521	WHSF	05/04/2005	RAM	UK700977000100C	UK700977A000162	Twin	13/08/2005	16.50	22.00	5.50
UK70097750173	WHSF	30/03/2005	RAM	UK700977000100C	UK700977000069R	Twin	13/08/2005	23.50	23.00	-0.50
UK70097750618	WHSF	07/04/2005	RAM	UK700977000100C	UK7009770116G	Twin	13/08/2005	20.50	21.50	1.00
UK70097750041	WHSF	28/03/2005	RAM	UK700977000100C	UK7009770139B	Twin	13/08/2005	16.50	21.00	4.50
UK70097750006	WHSF	25/03/2005	RAM	UK700977000100C	UK700977A000372	Twin	13/08/2005	24.00	21.00	-3.00
UK70097750075	WHSF	28/03/2005	RAM	UK700977000100C	UK7009770024B	Twin	24/06/2005	3.43	13.00	9.57
UK70097750146	WHSF	30/03/2005	RAM	UK700977000100C	UK7009770189S	Twin	13/08/2005	15.50	20.00	4.50
UK70097750798	WHSF	11/04/2005	RAM	UK700977000100C	UK700977A000663	Twin	13/08/2005	16.50	18.00	1.50
UK70097750084	WHSF	28/03/2005	RAM	UK700977000100C	UK700977A000152	Twin	13/08/2005	15.00	18.50	3.50
UK70097750313	WHSF	02/04/2005	RAM	UK700977000100C	UK700977A000173	Twin	13/08/2005	15.00	17.50	2.50
UK70097750315	WHSF	02/04/2005	RAM	UK700977000100C	UK700977A000173	Twin	13/08/2005	17.50	17.00	-0.50
UK70097750810	WHSF	11/04/2005	RAM	UK700977000100C	UK700977A000663	Twin	13/08/2005	14.50	15.00	0.50
UK70097750065	WHSF	27/03/2005	RAM	UK700977000100C	UK700977A000190	Twin	13/08/2005	16.00	16.50	0.50
UK70097750037	WHSF	25/03/2005	RAM	UK700977000100C	UK700977Z393	Twin	25/03/2005	UNKNOWN	2.32	2.32

Weighing Graphs

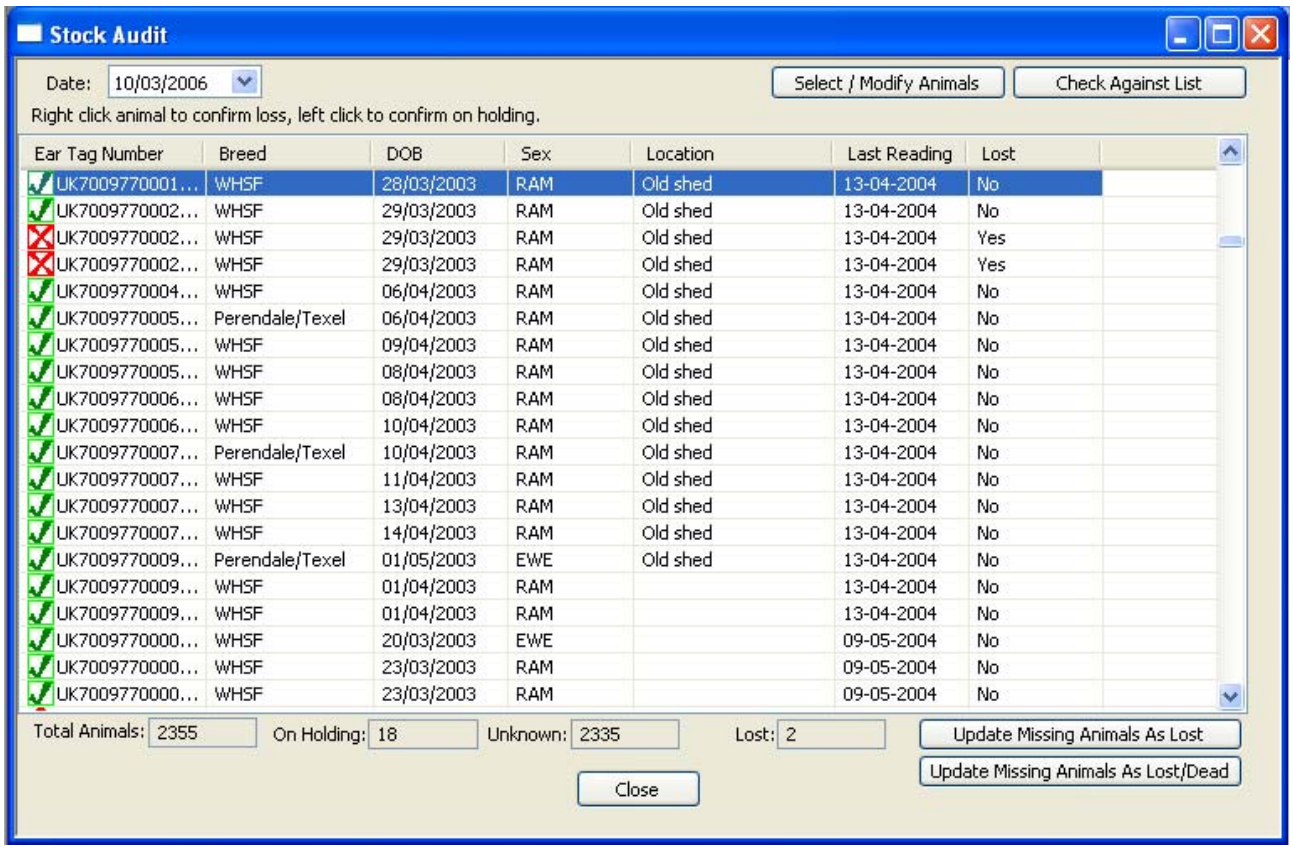
Graphical analysis identifies the spread of weights, lambs are shown based on their age at the time of weighing, individuals may be picked out and viewed by double clicking on the cross.



EID Audit Trail And Missing Animals

On large farms it is very difficult identifying missing or lost animals, and given that sheep do go missing whether dead or not, means we need a method of identifying lost animals and subsequently have a method for updating their records.

The Stock EID Audit view allows you to view all or selected animals, including their last EID reading date. It also allows you to tick off missing animals and update their records. Further more you may check the listed animals against any downloaded list of EID data, for example group selection records, movements or lambing data.



Ear Tag Number	Breed	DOB	Sex	Location	Last Reading	Lost
UK7009770001...	WHSF	28/03/2003	RAM	Old shed	13-04-2004	No
UK7009770002...	WHSF	29/03/2003	RAM	Old shed	13-04-2004	No
UK7009770002...	WHSF	29/03/2003	RAM	Old shed	13-04-2004	Yes
UK7009770002...	WHSF	29/03/2003	RAM	Old shed	13-04-2004	Yes
UK7009770004...	WHSF	06/04/2003	RAM	Old shed	13-04-2004	No
UK7009770005...	Perendale/Texel	06/04/2003	RAM	Old shed	13-04-2004	No
UK7009770005...	WHSF	09/04/2003	RAM	Old shed	13-04-2004	No
UK7009770005...	WHSF	08/04/2003	RAM	Old shed	13-04-2004	No
UK7009770006...	WHSF	08/04/2003	RAM	Old shed	13-04-2004	No
UK7009770006...	WHSF	10/04/2003	RAM	Old shed	13-04-2004	No
UK7009770007...	Perendale/Texel	10/04/2003	RAM	Old shed	13-04-2004	No
UK7009770007...	WHSF	11/04/2003	RAM	Old shed	13-04-2004	No
UK7009770007...	WHSF	13/04/2003	RAM	Old shed	13-04-2004	No
UK7009770007...	WHSF	14/04/2003	RAM	Old shed	13-04-2004	No
UK7009770009...	Perendale/Texel	01/05/2003	EWE	Old shed	13-04-2004	No
UK7009770009...	WHSF	01/04/2003	RAM		13-04-2004	No
UK7009770009...	WHSF	01/04/2003	RAM		13-04-2004	No
UK7009770000...	WHSF	20/03/2003	EWE		09-05-2004	No
UK7009770000...	WHSF	23/03/2003	RAM		09-05-2004	No
UK7009770000...	WHSF	23/03/2003	RAM		09-05-2004	No

FACT SHEET - Overview

1. What is EID

EID stands for **E**lectronic **Id**entification by means of electronic transponders and electronic reading devices that energise the transponder, which in turn transmits its code to the reader.

2. Hand Held and Static Readers

There are basically two type of reader: Hand held - designed for you to walk around with (pocket sized - almost) and static readers designed to work with races. Static readers have bigger antenna and therefore a greater range, and operate with mains or a large battery. Hand helds are normally powered by a rechargeable battery.

3. Unique Number

Each EID Transponder is manufactured with a unique number, which is 25 characters long. However only the last 16 is normally used, with the rest being '0'. Some hand held readers will display all 25 numbers, some only 16. A typical number: A0000000940000000067563

4. EIDS and Ear Tag Numbers

The EID number could be used to identify the animal on its own, however it would be incredibly difficult to write down such numbers and we humans may not remember them. Also we have already devised a system for tagging our sheep revolving around the flock number. We therefore have to link the EID to the Ear Tag Number (what is actually printed on the ear tags) in our computer systems. Some of the readers allow you to create this link by typing in the ear tag number against a read EID. This is then held in the readers memory and displayed when you read the animal again. The EIDs and ear tag numbers can then be downloaded from the reader to a computer or uploaded to the reader from the computer.

5. Tag Buckets

When you buy electronic ear tags printed with individual ear tag numbers, most tag manufacturers will provide you with a list of the ear tag numbers and associated EIDs. This is often referred to as the 'Tag Bucket' but in reality tends to be either an Excel spread sheet or Comma Separated Text File (.CSV).

6. Computer

Most of the readers are designed to communicate with your computer and come with there own basic software for loading tags and extracting data. Most farming software now support direct communication with at least one reader, but there is no standard and just because your software talk to one reader does not mean it will talk to another manufacturers reader.

7. Identification and More.

The basic aim of the EID reader is merely to read the EID, the more sophisticated readers however will also let you then type in other information for example, weights, lambing data or treatments. This however depends on the Setup of the readers which themselves are programmable and the exact routines provided to you may vary. Some readers only allow you to enter numbers whilst others will allow you to enter letters as well.

8. Reading Range

The range of a hand held readers is relatively short i.e. for example 20 - 30 cm max because of the limited size of their antennas. Static readers tend to have a larger range because they can accommodate larger antenna - but the exact range will depend on the model.

9. Bolus or Tag

The EID transponder is a small electronic device encapsulated in glass. It measures around 2cm long and is approximately 5mm in diameter. Whether in a tag or a bolus the device is the same. The bolus is normally ceramic with the transponder in the centre and comes in a variety of sizes. Tags look exactly the same as normal tags except they are a little thicker to accommodate the transponder.

10. Tag Loss

Tag loss in sheep will ultimately depend on the design of the tag. EID has little effect on this. EID tag manufacturers have however made considerable improvements in the tag design with very good results. The idea that tagging lambs is a waste of time because the tag will brake and come out is simply not true.

11. Bolus Loss

Bolus loss depends on the size of the bolus, however small sheep cannot be bloused with large boluses. It is normal to bolus ewe-lambs at around18 months if using larger boluses. Bolus retention is around 98%.

12. Reading a Bolus compared to a tag

Bloused animals may be more difficult to read with a hand held device than ear tagged animals as you have to bend down and it can be awkward in a race. To overcome this most manufacturers provide stick antenna extensions for the hand held readers, which can ease the work considerable, one possible downside being that you then need an extra hand.

13. Reader Costs

Hand held readers start from around £350 and go up, but you do not necessarily get more functionality for more money.

14. Tag Costs

Tags at present cost around 50p more than a normal tag, but vary between manufacturers.

15. Stick Antenna

Stick antenna are available for most hand held readers, they are simply EID antennas incorporated into poles allowing you to reader the EID of an animal more easily, for example when reading a bolus.