

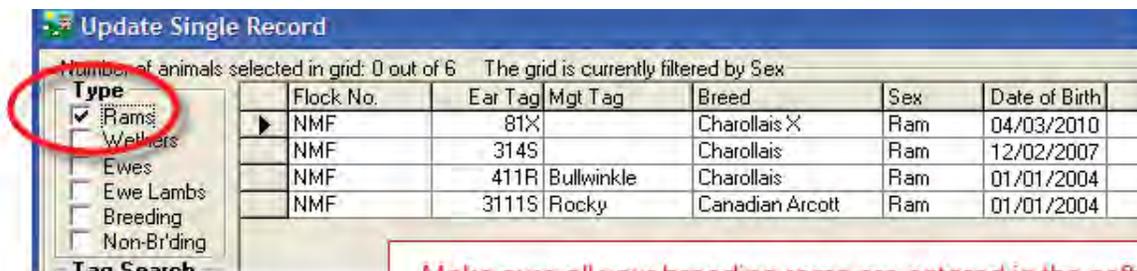
# Reproduction - Topping



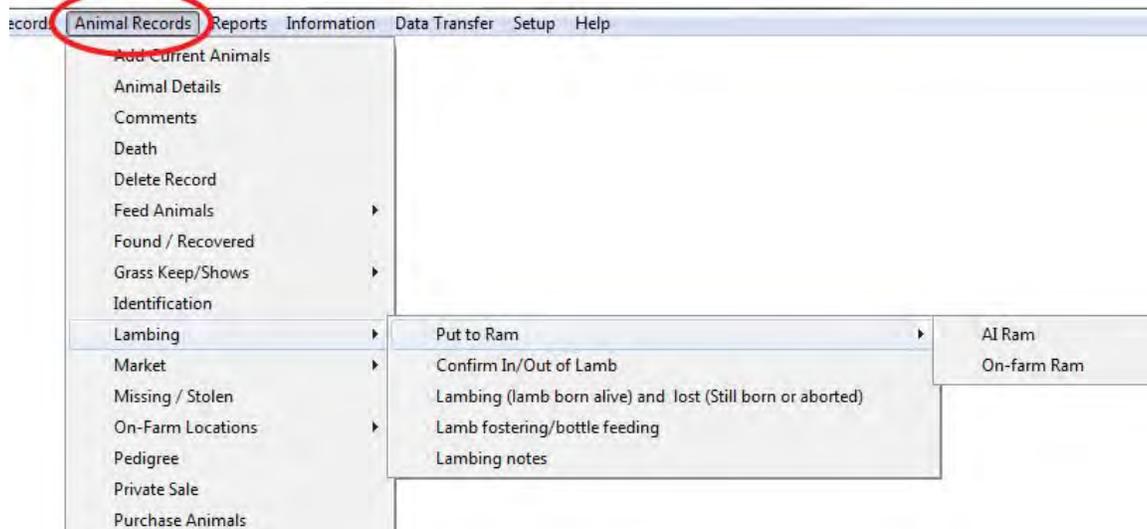
“Topping” is the British term for mating rams and ewes. If you record what rams are bred to which ewes then the sire will automatically appear in the lambs’ data when the birth is recorded. Having known sires allows you to compare the offspring of different rams.

## Recording Breeding in FarmWorks

1. Before you can record breeding make sure all your rams are entered into FarmWorks on the computer. Go to **Animal Records > Animal Details** and filter to find all your rams.
2. Check each ram’s details. Make sure the box is ticked to designate the animal as breeding stock.
3. To record breeding in FarmWorks go to **Animal Records > Lambing > Put to Ram > On-farm Ram**. If you are recording artificial insemination then use **Animal Records > Lambing > Put to Ram > AI Ram**.



Make sure all your breeding rams are entered in the software.





# Reproduction - Topping

- On the Topping screen select the date of breeding, choose the ewes for each breeding group either by filtering or selecting one by one. Having your ewes in management groups or on-farm locations before you start can save you time and effort.

Mgt Group	Tag	Breed	Sex
JAMN	7422	Suffolk X	Ewe
JAMN	7424P	Suffolk X	Ewe
JAMN	7430	Suffolk X	Ewe
JAMN	7431	Suffolk X	Ewe
JAMN	7435P	Suffolk X	Ewe
JAMN	7439P	Suffolk X	Ewe
JAMN	7445	Dorset X	Ewe
JAMN	7446P	Suffolk X	Ewe
JAMN	7447	Ile De France X	Ewe
JAMN	7449P	Canadian Arcott X	Ewe
JAMN	7450P	Suffolk X	Ewe
JAMN	7451	Suffolk X	Ewe
JAMN	7452P	Suffolk X	Ewe
JAMN	7453P	Suffolk X	Ewe

Filter by: Mgt Group  2012 Warrens Culls  2015 - Bred by Parker  2015 - Bred by Polypay  2015 - bred by Geronimo  4.h  barn pen 4 mar 17 12  barn pen1 mar17.12  ewe apr 13  ewe lambs

Breed  Select all Location  Select all Birth Year  Sele

Save time by putting ewes into groups on the computer before breeding. Then use the Draft function on the stock recorder to sort the ewes into their breeding groups when the rams go in.

- Highlight the ewes, highlight the ram you want, and **Save**. When those ewes give birth the sire will automatically show on the lambs' records.
- FarmWorks is designed to record one sire per lamb. If you turn out more than one ram per group of ewes you can still record the breeding by making a group of rams into one "virtual" ram for record-keeping purposes.
- Under **Animal Records > Add Current Animals** create a ram: make the tag number a description of the group so you know it is not a real ram. Select this "virtual" ram for a multi-ram breeding situation.

Select the Ram

Flock Number	Ear Tag	Breed
NMF	314S	Charollais
NMF	411R	Charollais
NMF	3111S	Canadian Arcott
NMF	CLEANUP1	Texel X
NMF	SUFFRAMS2	Suffolk

- If you rotate your rams through different breeding groups, or use a cleanup ram, then it's important to record the topping the day each ram goes in and again the day he comes out. For example Ram A is put with a group of ewes on November 1 and the topping is recorded. Ram A is taken out on November 22 and the topping is recorded again. Then a week later cleanup Ram B is put with the ewes and that topping is recorded too. FarmWorks will use the gestation period to compute the most likely sire of the lambs born from the two breeding periods.



## Recording breeding on the Psion stock recorder

1. To record breeding with the stock recorder go to **Sheep Procedures > Topping**. Change the date if necessary. Scan the ram's RFID tag or type his number into the Sire field. Then scan the RFID tags of the ewes you want in this breeding group. The Psion saves after each ewe is scanned so it's not necessary to press **Save** for each ewe. If you are not sure whether or not a ewe was scanned properly then scan her ear tag again - it won't hurt anything and she won't be counted twice!

**Topping** [X]

Date 05/04/2013

Sire NMF 411R

Dam NMF 472P

Count 7 [Clear count]

Esc Save

The Psion automatically saves after each ewe is scanned so it is not necessary to press **Save** after each one.

2. When you import from the Psion into FarmWorks the breeding will be recorded against the ewes and the lambs will have known sires.
3. In FarmWorks, under **Reports > Sheep > Topping** there is a variety of reports to help you organize and manage your breeding records. This is also the easiest place to make breeding groups into management groups using the grouping function at the top of every FarmWorks report.



# Assisted Reproduction

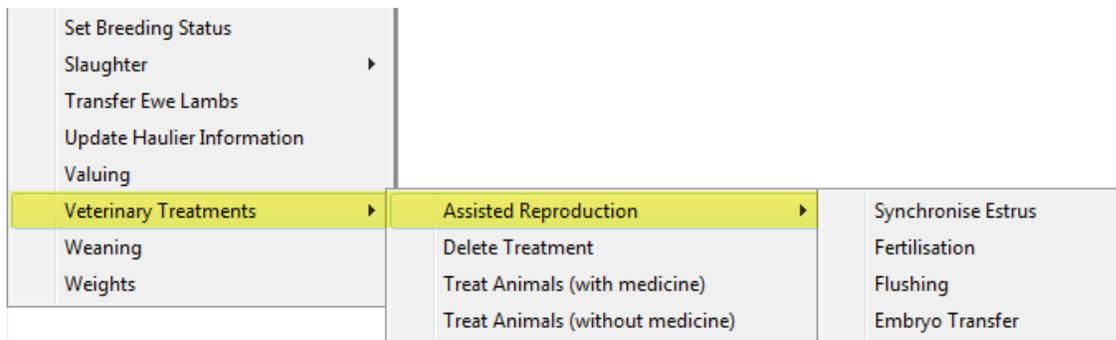
## Assisted Reproduction in Sheep

The Assisted Reproduction feature is comprised of estrus synchronization, fertilization of donor ewes for the purpose of producing embryos, flushing of donor ewes to retrieve embryos, and the surgical implantation of embryos into recipient ewes.

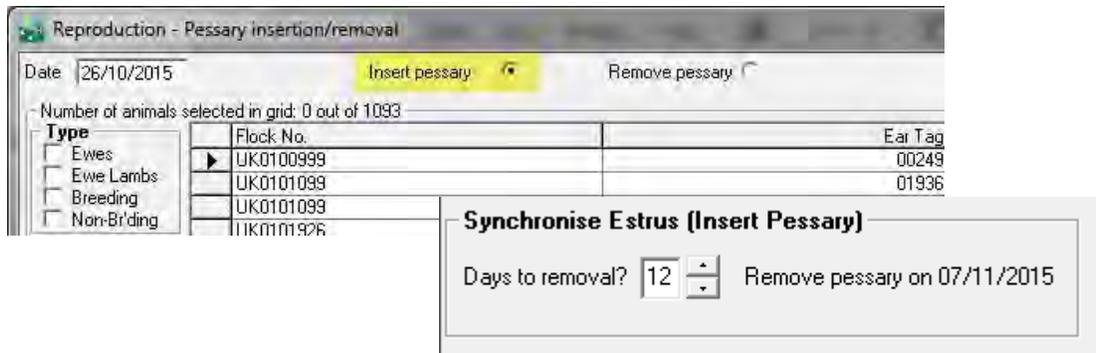
Embryo transfer in FarmWorks is recorded in two parts - the veterinary procedures for producing embryos from donor ewes, and the insertion of embryos into recipient ewes that results in pregnancy. There is no requirement to record all of the procedures in order to record an ET breeding, and no requirement to record an ET breeding if you wish to simply enter a genetic dam into a pedigree that differs from the 'birth dam'.

### Synchronize estrus

1. Go to **Animal Records > Veterinary Treatments > Assisted Reproduction > Synchronize Estrus**.

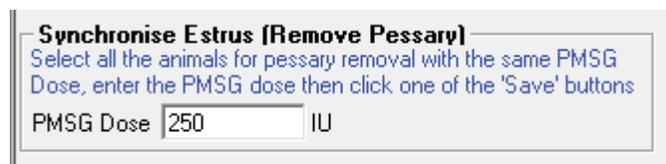


2. Click **Insert pessary**. Select an insertion date.
3. Select a single ewe or multiple ewes to receive a pessary. Click **Save**.
4. The number of days to leave the pessary can be adjusted below the grid. The removal date for the number of days selected is displayed.



For pessary removal

1. Go to **Animal Records > Veterinary Treatments > Assisted Reproduction > Synchronize Estrus**.
2. Click on **Remove pessary**. Select a date.
3. Select a single ewe or multiple ewes for pessary removal.
4. Record a dose of PMSG that each ewe received. Click **Save**.



# Assisted Reproduction



## Fertilization

Donor ewes are fertilized by a natural or AI breeding.

1. Go to **Animal Records > Veterinary Treatments > Assisted Reproduction > Fertilization**.
2. Select a date. Select natural or AI breeding.
3. Select the donor ewes to be fertilized.
4. Select the ram to sire the embryos.
5. Click **Save**.

UK0111957	00225	North of England Mule	Ewe	01/03/2010	
UK0112499	00556	North of England Mule	Ewe	01/03/2010	
UK0112499	00583	North of England Mule	Ewe	01/03/2010	
UK0112499	00591	North of England Mule	Ewe	01/03/2010	
UK0112499	00629	North of England Mule	Ewe	01/03/2010	
UK0112499	01318	North of England Mule	Ewe	01/04/2011	
UK0112499	01365	North of England Mule	Ewe	01/04/2011	
UK0114019	03445	North of England Mule	Ewe	01/04/2012	
UK0122268	01237	North of England Mule	Ewe	01/03/2010	
UK0122268	01246	North of England Mule	Ewe	01/03/2010	

Filter by: Mgt Group  Select all Breed  Select all Location  Select all Birth Year  Select all

Number of animals selected in grid: 1 out of 253 The grid is currently filtered by Breeding status

Type	Flock No.	Ear Tag	Mgt Tag	Breed
<input checked="" type="checkbox"/> Breeding	UK0125201	00161	Currie	Texel
<input type="checkbox"/> Non-Breeding	UK0125201	00437	R002	Beltex
	UK0125201	00461	R026	Beltex
	UK0126251	00474		Suffolk
	UK0127288	00107	Stonebridge	Texel
	UK0130100	00005		Suffolk
	UK0130100	00000	Emmehaw Vannard	Texel

Filter by: Mgt Group  Select all Breed  Select all Location  Select all Birth Year  Select all

**Fertilisation (Sire and breeding details)**  
Select the sire from the grid above or enter the sire's details below

Flock Number	Tag Number	Breed
UK0125201	00161	Texel

Breeding  
 Natural  
 AI

## Flushing

Fertilized ewes are flushed to retrieve the embryos for freezing or transfer.

1. Go to **Animal Records > Veterinary Treatments > Assisted Reproduction > Flushing**.
2. Select a date.
3. Select one donor ewe.
4. Fill in the number of viable embryos and number of discarded embryos.
5. Click **Save**.

**Flushing**

	Viable	Discarded
Number of embryos	8	2

## Reproduction Report in Sheep

1. Go to **Reports > Sheep > Reproduction**.
2. Any ewe with a record of synchronization, fertilization or flushing can be selected from the grid.
3. Use the filters and date ranges to refine the report.

Note: Embryo transfer is reported separately from Assisted Reproduction.  
Go to **Reports > Sheep > Embryo Transfer Breeding**.



# Embryo Transfer

## Embryo Transfer

Embryo transfer is the surgical transplant of embryos from a donor ewe into a recipient ewe with a resulting pregnancy and birth of full-term lambs. Thus the donor ewe is referred to as the 'genetic dam' of any lambs born, and the recipient ewe is referred to as the 'birth dam'.

It is not necessary to have recorded synchronization, fertilization and flushing in order to record an embryo transfer breeding.

1. Go to **Animal Records > Veterinary Treatments > Assisted Reproduction > Embryo Transfer**.
2. Select a date.
3. From the top grid select up to 8 recipient ewes to receive embryos. Their tag numbers appear at the bottom of the screen
4. Select a donor ewe to contribute embryos; select a ram to sire the embryos.
5. The default number of embryos is 2 per recipient but you can change that to a maximum of 4. Select either fresh or frozen embryos. Click **Save**.

A recipient dam will be considered "put to ram" when an ET breeding is recorded against her. Scanning results and projected lambing dates will be calculated from the date of embryo transfer.

Offspring born from embryo transfer should be recorded through **Animal Records > Lambing** in FarmWorks on the PC, not on the stock recorder, in order to have the correct genetic dam and sire assigned to the lambs.

**Select recipient ewes from the top grid. Their tag numbers appear at the bottom.**

Flock No.	Ear Tag	Mgt Tag	Breed	Sex	Date of Birth
UK0185650	02154		Suffolk	Ram	21/02/2012
UK0126251	00474		Suffolk	Ram	01/03/2011
UK0185650	02881		Suffolk	Ram	21/01/2013
UK0185650	02898		Suffolk	Ram	23/01/2013
UK0185650	02899		Suffolk	Ram	23/01/2013
UK0185650	02895		Suffolk	Ram	23/01/2013
UK0185650	02909		Suffolk	Ram	24/01/2013
UK0185650	02891		Suffolk	Ram	25/01/2013
UK0185650	02907		Suffolk	Ram	27/01/2013
UK0185650	03032		Suffolk	Ram	30/01/2013
UK0185650	02993		Suffolk	Ram	27/01/2013
UK0185650	02994		Suffolk	Ram	27/01/2013
UK0185650	02997		Suffolk	Ram	27/01/2013
UK0185650	03027		Suffolk	Ram	29/01/2013
UK0185650	02328		Suffolk	Ewe	20/03/2012
UK0185650	02071		Suffolk	Ewe	03/02/2012
UK0185650			Suffolk	Ewe	28/01/2014

**Donor dam and sire.**

Flock Number	Tag Number	Breed	
Donor Dam	UK0185650	02071	Suffolk
Donor Sire	UK0185650	02997	Suffolk

**Recipient ewes. The default is 2 embryos each.**

UK0103063 02526	UK0103298 02096	UK0103593 01836	UK0103634 01596
Number of Embryos [2]			
UK0103639 03758	UK0103639 03796		
Number of Embryos [2]	Number of Embryos [2]		