

Equipment Basics for Goat Artificial Insemination

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Some pictures and names to get you started

- There are many types of each thing we will look at but we will show you the version we used for our workshop.
- There are several categories to cover
 - Animal restraint
 - Insemination Equipment
 - Semen storage and transport

Animal Restraint



- Animal restraint is important because you need to concentrate on performing the AI and not on holding the animal.
- Something with a stanchion type restrainer and up off the ground is ideal.
- Adding a bowl to hold some feed to distract the goat is also a good idea.
- You may want to place your stand next to a wall so someone can help you hold the goat from one side.



* Remember you will be looking up into the speculum.

* The ramp can be removed on this metal handling equipment.

* You may find a chair or stool you can kneel or lean on, at the back of the stand can be helpful.

Insemination Equipment

- Lubricant
- Speculums
 - Light source
- AI “Gun”
 - Sheath
- Straws
 - Tweezers
 - Thawing unit
 - Straw Cutter
- Kits – a good way to get started!



Lubricant –

The lubricant is for putting around the end of the speculum to make insertion easier on the goat. It's handy if it comes in a container that will fit in your pocket so you can keep it warm.

Be sure to get non-spermcidal water-based lubricant

Sterile is a good idea if you can get it.

Here's some examples but there are other brands.

The personal lubricant from the drugstore can work but be sure to read the label to be sure it is plain and non-spermcidal.

The lubricants used when assisting with lambing and kidding may have other things in them as well so they are not recommended.



Speculums –

Speculums are a tube that you insert into the vagina of the goat so you can see and access the cervix.

There are different kinds:

Jorgensen Speculum

- Has a little arm sticking out
- Takes a flashlight with attachment

Other types – other sizes

Look at the end that goes into the vagina –

- Smooth
- Some have an insert

Have a brush for cleaning the inside.



Different types of light sources:

Important that you can see around it

It's dark in there!

Flashlight with special head attachment that fits on the Jorgensen speculum

Long bendable LED light.

Very thin penlight that clips onto the speculum

Nice if you don't have to hold it separately

Have extra batteries on hand!



Straws-Sheaths-AI Guns

Straws contain the frozen semen. They are labeled with buck, date of collection and other information.

Sheath – We usually use a 12” sheath for goat AI . This one has a beveled end. The sheath fits over the AI gun

AI “Gun”

Its really a big syringe with a plunger. The little yellow ring helps hold the sheath in place when the gun is loaded.



Close-up of the top of the AI “Gun”

You can see the plunger – it’s very thin.

The yellow ring is for holding the sheath in place. The gun is slightly tapered so you can slide the rind down and slide the sheath on and then push the ring over it and tighten it towards the top.



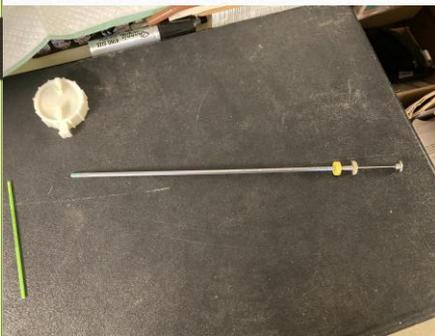
Special tweezers –

These tweezers have an angled end that fits around a straw. This allows you to lift the straw out of the cane or the semen thawing unit (more on those in a minute)



The straw cutter -

The straw cutter is for cutting off the end of the straw with the powder plug. After the straw is loaded into the gun, the end is placed in the cutter. When you squeeze the button on the side it slices off the straw at a consistent length. Some straw will still be showing at the bottom of the AI gun. Now you can slide the sheath over the AI gun and it should all fit. You can use a good pair of clean scissors if you don't have a straw cutter.



Semen Thawing Unit

Helps maintain a steady temperature water bath to thaw semen.

You can use a laboratory water bath as well if it has a good thermostat.

Time and temperature for thawing vary from supplier to supplier but most fall in the range of 95 °F (or 35 °C) for 60 to 90 seconds.

There's a little basket inside the thawing unit that the semen straw sits in while it is thawing. You can lift the basket and pick the straw out with the tweezers or your clean fingers when you are ready to load the AI gun.

You can use a thermos with water warmer at the correct temperature. Therefore, having a good thermometer or two is a good idea – both to warm the water for your thermos or to check the water in your automatic unit.



Semen Storage and Transport

- Semen tank
 - Goblets
 - Canes
 - Straws
- Dry shipper
 - For temporary semen storage or shipping
- Liquid Nitrogen

Semen Storage Tank –

Filled and maintained with liquid nitrogen to keep the semen frozen.

Cattle AI companies will do tank liquid nitrogen maintenance for a fee.

It's well insulated and heavy!

It has a cap and a long Styrofoam plug in the top





The goblet – the part you lift up to see the labeled canes. The canes are the things you can see with the colored labels on top. There are 6 goblets in this tank. All the goat semen is in goblet #1. There are little labels on the rim of the tank that tell you which goblet is which.

The canes have the straws inside them.

The picture on the right shows an empty cane.



A Dry Shipper is like a small semen tank that can be shipped or brought in your vehicle easier than the semen tank. They vary in how much they hold, whether they can be shipped by commercial shippers, and how long they can keep semen at the correct temperature.

Some semen companies loan or rent a dry shipper for producers to use to get the semen to their farm.



Laboratory-Equipment.com



Final Thoughts -

- Think of using a kit if you are just starting out.
- Google “AI supplies for goats”
 - Lots of choices, kits, individual parts
- Do planning for synchronizing and timing of semen shipping.
 - Maybe work with a local dairy farmer so you can breed on natural heats
 - Work with semen company to use a borrowed dry shipper
 - Line up some help

Final Thoughts

- Practice with some empty straws
 - Get the goat on the stand,
 - Pretend to thaw the semen, load the gun, etc
 - Be sure you know the order in which you will be doing things.
- Then don't be discouraged if it doesn't work!
 - There are many factors that affect the outcome
 - Semen handling (outside temp, semen tank maintenance, timing, water temp, etc)
 - Heat cycle
 - Have a back up plan

