**Lambing/Kidding Protocol**

1. Ewe gestation length = ~144-151 days (~5mo), Doe gestation length = ~145-155 days (~ 5mo)
2. Pre lambing/kidding preparation:
	1. After 95 days gestation energy requirements on ewes/does increases
		1. feeding needs to be adjusted to meet the increased energy demands to prevent occurrence of pregnancy toxemia/ketosis
		2. Grass hay alone is not sufficient to meet these demands
		3. Adding in alfalfa hay, a commercial feed or protein/mineral supplement formulated for pregnant ewes/does can help meet the energy demands during late pregnancy
		4. Overweight ewes/does in early pregnancy are more prone to pregnancy toxemia later in pregnancy
			1. \*\* to prevent issues with pregnancy toxemia it is important to keep ewes/does at an ideal body weight (BCS 2.5/5 or BCS 5/9 depending on which scoring system you use) throughout their pregnancy
	2. \*\*Booster CD&T vaccine ~4 weeks prior to due dates
		1. If no prior vaccine history give 2 doses of CD&T vacc at 7 and 4 weeks prior to due dates
	3. Deworm according to FAMACHA scores at 4-6 weeks prior to due dates
		1. Ensure dewormer is labeled safe for use during pregnancy
	4. Farms with a history of recurring coccidiosis outbreaks can start does/ewes on a preventative coccidiostat (ex: Monensin feed additive) ~ 1mo prior to due date and continue for 1 mo post delivery
		1. Extreme care needs to be taken to follow correct dosing.
		2. Over dosing or feeding longer than 2-3 months can result in toxicity
	5. Recommend giving ewes/does a dose of Bo-Se (Selenium supplement) 4-6 weeks prior to delivery
		1. For ewes follow label dosing directions
		2. For does give 2.5mls/100lbs body weight IM
	6. \*\*Sheer ewes prior to lambing, especially around perineal area.
	7. \*\*Items to have on hand: frozen colostrum or colostrum replacement supplement, stomach tubing kit, bottles with several nipple varieties, extra sheep/goat milk or milk replacer, scale for taking birth weights, gloves/sleeves, lube, heat lamps, towels, infant suction bulb, iodine or chlorhexidine solution in a container easy to dip navels in, Dexamethasone, Banamine (Flunixin Meglumine), Penicillin, Oxytocin or Lutalyse, Bo-Se, Vitamin B complex, CMPK or Calcium oral gel/boluses and karo syrup.
	8. Moving feeding time to later in the evening/night can help push delivery time further into the morning hours to help avoid deliveries in the middle of the night.
	9. Preparing a suitable environment for lambing/kidding:
		1. Ideally you want to set up several different pens for your lambing season, especially if you have a large operation. This will allow you to separate out your ewes as they move through the various stages of pre-delivery, delivering and post delivery, to keep clean conditions and minimize illness.
		2. 1st pen = pre-delivery pen
			1. where pregnant ewes are placed ~4 weeks prior to their delivery date
			2. This pen can be outside but should be in a location where you can easily monitor the ewes throughout the day and will allow you to more easily catch them for pre-delivery vaccines and deworming or if an issue is observed.
			3. 2nd pen = delivery pen
				1. This pen should be in a location protected from the elements, ideally in a sheltered barn with ample, clean bedding, good ventilation and minimal drafts
				2. This pen should be cleaned daily to minimize bacterial infections during delivery
				3. This pen should be checked multiple times per day for new deliveries.
				4. Ewes should be moved into this pen ~1 week prior to their due dates. If delivery dates are unknown move ewes into this pen when udders are engorged, vulvas are swollen and ewes look heavy in their low abdomen and more sunken-in in their flanks.
			4. \*\*3rd pen = individual lambing jugs
				1. Lambing jugs are small pens ~5x5 ft in dimensions located in a warm/dry, draft free enclosure to protect neonates from the elements.
				2. They should have ample clean bedding and be cleaned daily to minimize illness and heat lamps should be readily available
				3. Lambing jugs allow the ewe to bond with her lambs and get to know their smells so she will mother them more effectively when reintroduced to the herd
				4. Ewes and lambs should be held in the jugs for at least 24hrs and up to 3 days post delivery. A longer stay duration is required for ewes with multiple offspring (i.e. 3 days instead of 24hrs).
			5. 4th pen = mixing pens, a larger area where multiple ewes and their lambs are placed after the jugs for the first month prior to being let out with the larger herd
				1. These pens can be outside but should have adequate shelter for the young lambs
				2. Minimizes risk of injury to lambs from larger herd mates
				3. Check these pens multiple times per day to watch for sick lambs
				4. If this is a pasture, make sure no other animals have been on the pasture for at least 60 days prior to releasing young animals onto it.
		3. While goats may not need as strict of a pen system as sheep, it is still important to provide a clean, dry area protected from the elements for kidding and to have several individual jugs/sick pens set up just in case.
3. Signs of impending delivery:
	1. Udder development begins ~4 weeks prior.
	2. The vulva will begin to swell ~1 week prior.
	3. The flanks will appear sunken in and the ligaments at the base of the tail will soften ~12hrs prior.
	4. Mucous can be seen from the vulva just before labor begins when the cervix begins to dilate
4. Stages of labor:
	1. \*\*Stage 1 labor/pre-delivery:
		1. Signs include: isolation from group, mucous from vulva, discomfort/restlessness, Up/down behavior and mild contractions
		2. May last for as long as 12 hrs in some individuals
	2. \*\*Stage 2 labor/delivery:
		1. Can take up to 2 hours and depends on the number of fetuses
		2. Begins when the water breaks and fetal membranes or feet are observed
		3. \*\*Forward progression of delivery should be observed ~every 15 min.
			1. If the ewe/doe is straining with no progression after 20min provide assistance or call your veterinarian
			2. If assistance was required for delivery of lambs/kids, the ewe/doe should be administered a dose of Penicillin and Banamine to help prevent infection and ease pain.
		4. Allow 20-30 min between lambs/kids before intervening, if multiple lambs are expected. If assistance is required for one lamb/kid there is a high chance that assistance will be required for delivery of the other lambs/kids, but don’t rush in, always let the ewe/doe try to deliver naturally first.
		5. Before assuming the ewe/doe is done delivering monitor closely over the next couple hours for further contractions and when in doubt insert a clean, gloved and lubed hand into the vagina to ensure no further fetuses are felt.
		6. Stage 2 Ends when all fetuses are delivered
	3. Stage 3 labor = passing of fetal membranes/placenta
		1. \*\*The placenta should be passed within 24 hrs post delivery
		2. If you had to assist with delivery there is a higher chance of the ewe/doe retaining her placenta and a single dose of Oxytocin (see below) can given at the end of delivery to help prevent retaining
		3. Retained placentas (> 24hrs post delivery) can initially be treated with Oxytocin (0.5mLs IM every 4 hrs) or Lutalyse (1mL IM every 12 hrs) to stimulate release
			1. If still retained at 48hrs call your veterinarian for assistance.
			2. Start on Penicillin and administer a dose of Selenium (Bo-Se)
5. \*\*Neonatal care:
	1. Once a lamb/kid is born, clear the mucous from its nasal passages and mouth using your finger and a rag or an infant suction bulb and tickle inside the nares with straw to stimulate a sneeze and breathing.
	2. Lambs/kids delivered hind legs first or that have been in the birth canal for a prolonged time should be gently swung upside down to help clear fluid from the lungs.
		1. If aspiration occurred and the lamb/kid is wheezing persistently call your veterinarian or start on Penicillin
	3. Tie off and shorten the umbilicus if longer than ~2 inches
	4. \*\*Dip the navel in chlorhexidine or iodine solution 2-3x/day for the first 48 hrs.
	5. \*\*Move the ewe and lambs into individual lambing jugs.
	6. Place the lamb/kid in front of the ewe/doe for her to clean.
	7. Strip plugs from ewes/does teats and monitor from a distance
	8. Lambs/kids should be standing and nursing within 30-60min. If not nursing within 1.5 hrs post delivery provide assistance to help initiate nursing.
	9. Meconium should be passed within the first couple hours after nursing
		1. if straining to defecate or no meconium is passed with 2-4hrs an enema may need to be performed
			1. you can use an infant enema kit for this or make your own by mixing 2mls of gentle/soft soap into 3 mls of warm water and slowly infusing a small amount (~2-3 mls) of soapy water into the rectum.
	10. If the ewe/doe rejects the lamb/kid or the lamb/kid appears weak and unable to nurse, hypothermia (rectal temp <99F) can develop rapidly
		1. Intervention should be taken to warm the lamb/kid via towel drying/stimulation and a heat lamp or a warm blow dryer or a hot water bath
		2. After the lamb/kid’s temperature is brought up to 100F, 2-4oz of colosturm should be administered via bottle or stomach tube if no suckle reflex is present to help maintain body temperature
			1. Do NOT give colostrum until body temp is brought up to 100F
	11. \*\*Ensure lambs/kids receive adequate colostrum
		1. Lambs/kids should ingest at least 10% of their body weight in colostrum within the first 24hrs of life.
			1. 1 lb colostrum = 16oz.
			2. Ex: If a lamb/kid weighs 10 lbs at birth, 10% of body weight = 1 lb = 16oz of colostrum within the first 24hrs.
			3. Divide the amount of colostrum required into smaller meals fed frequently throughout the first 24hrs.
	12. Take rectal temperatures 2x/day for the first 3 days after delivery and call your veterinarian if the rectal temp is > 104.0F or if lamb/kid appears weak or sick
	13. Vitamin B complex can be administered to help boost lamb/kid’s immune system and apatite
6. Monitor the ewe/doe closely for the first 48 hrs post delivery.
	1. \*\*Call your veterinarian if any of the following are observed: streaming fresh blood from the vagina, extreme weakness or pain post delivery, down/not standing, fever > 103.0F, anorexia, failure to pass the placenta within 48 hrs, vaginal or uterine prolapse.
	2. Giving an oral or bolus of calcium post delivery can help prevent milk fever/hypocalcemia in nursing ewes/does with high milk production
7. All aborted fetuses or neonates that die within the first 48hrs of life with no apparent cause should be necropsied and placentas evaluated for signs of infectious disease by your veterinarian or the CSU Diagnostic lab.
8. Tail docking in lambs should be performed at 2-5 days of age.
	1. Tails should be docked at the point where the caudal skin folds merge with the tail, leaving 2 vertebrae attached and the stump ~1-2 inches long.
	2. If ewes were not vaccinated against CD&T prior to lambing, lambs should receive a CD&T vaccine as well as a tetanus antitoxin vaccine at the time of tail docking.
9. Bo-Se injections can be given at 1 week of age to prevent selenium/white muscle disease in dry lotted farms or when ewes did not have access to greed pasture grass during pregnancy
10. CD&T vaccines should be given to lambs/kids at ~6, 9 and 12 weeks of age
11. Ram lambs and Billy goats should be castrated at ~8 weeks of age
12. Deworming should be performed at 8-12 weeks of age.