How to determine what to charge for a gallon of goat milk.

First find out your input costs:

Section 1. Grain per goat: A lactating doe eats about a 3 cups of grain per milking if milked the standard twice per day. The doe eats 6 cups of grain per day. 6 cups grain (sweet feed) = 26.25 ounces. There is 800 ounces in a 50 pound bag of feed so this bag will last approximately 30 and 1/2 half milkings. Let's say 30 milkings for easy math and spillage leeway. So this 50 pound bag of sweet feed should last 1 milking doe being milked twice daily 15 days. At a current cost of $10 per bag, the grain cost is ($10 ÷15 = 0.6666666667 round up to .67) $0.67 cents per day. $0.67 × 365 days = $244.55 per year per goat.

Now it's your turn! Not all grain weighs the same, so make sure you know how much the grain that your milk doe is eating weighs, then fill in the work sheet below.

Weight of feed bag _____ounces ÷ Weight of grain fed per milking_____ounces = _____number of milkings per doe bag will last ÷ _____ number of milkings per day = _____ number of days the bag will last for one doe.

Cost of bag of feed $_____ dollars ÷ _____number of days the bag lasts = $_____ cost per day per goat.

Now for the yearly cost, there are 2 options; grain year round or grain only while lactating. Chose one: $____cost per day per goat x _____ days grain is fed = $_____ cost per goat per year. Enter this number on the work sheet in section 6.
(a year is 365 days the average lactation of a doe is 304 days.)

Section 2. Hay per goat: 13 pounds of hay per day per goat (10% of a 130lb goat). Hay is tricky to calculate because of the goat's tendency to waste it! They waste more lower quality hay than high quality. They waste much more if they are allowed to jump on the bale. Hay feeders are better. So here goes nothing! Assuming a $50 bale that weighs 1000 pounds with an estimated waste of 250 pounds (1000 - 250 = 750 lbs usable), the bale would last approximately 56 days for 1 doe (750÷13=57.69, but I always round down for hay). The cost would be $0.89 per day per goat. ($50 ÷ 56 days = $0.89) $0.89 × 365 days = $324.85 per year per goat in confinement. $0.89 ×124 days = $110.36 per year per goat on graze given hay in winter in my area.

Now It's your turn! Determine the average weight of your breed of goat and input it in the work sheet.

____pounds x .1 =_____ pounds. This is 10% of the goat's body weight.

Next determine the waste of your hay bale by weighing the left overs that they won't eat and fill out the work sheet below.

Weight of bale _____pounds - _____pounds weight of waste = _____pounds amount of edible hay ÷ _____ pounds the 10% body weight from above =_____days the bale will last 1 goat.

Now enter the cost of the bale $_____ ÷ _____number of days the bale will last = $_____ cost per day per goat x _____ number of days hay must be fed per year =$_____ cost of hay per goat per year. Enter this number in the worksheet in section 6.

Section 3. Water per goat: 1.5 gallon per day per goat average. Water should be heated in winter adding a little extra expense. For me, water cost is negligible (about $0.01 per doe per day) for those in desert areas it may be an expense to consider. $0.01 × 365 days = $3.65 per year per goat.

Now it's your turn. If water is a negligible amount in your area, you can skip this worksheet. Your water bill will tell you how much you are paying per 1000 or 10000 gallons. Simply enter that gallon amount here _____gallons ÷ _____gallons your goat drinks per day = _____days it takes for 1 goat to

drink that amount. Now enter the cost of that water $\$\_\_\_\_\_ \div$ number of days it takes to consume = $\$\_\_\_\_$cost per day per goat x 365 days =$\$_____$cost of water per year per goat. Input this number in the worksheet in section 6.

Note: you can add extra water use for cleaning, and also if you have a dedicated water heater you can add that yearly cost as well.

Section 4. De-wormers/ bug sprays/herbs/supplements/other health maintenance items per goat: For me the cost on this varies every year, but it averages about $27.50 per goat per year ($12.48 de-wormer + $4.10 minerals + $10.92 other = $27.50 per goat per year).

How to calculate the cost:

Assuming the cost of dewormer bottle is $120 and contains enough dewormer to worm 1 goat 100 times the cost per dose would be $1.20 per worming. Assuming the goat needs dewormed 4 times in a year the cost per year would be $1.20 × 4 = $4.80.

The same math is used for every thing on the worksheet below.

Now it's your turn:

Dewormer

Enter cost of container $\$\_\_\_\_ \div \_\_\_\_\_$ Number of uses per container for your size goat =$\$\_\_\_\_\_$ per dose x _____ number of times it's given to the goat per year = $\$\_\_\_\_\_$ per year per goat.

Supplement

 Enter cost of container $\$\_\_\_\_ \div \_\_\_\_\_$ Number of uses per container for your size goat =$\$\_\_\_\_\_$ per dose x _____ number of times it's given to the goat per year = $\$\_\_\_\_\_$ per year per goat.

Herbs

Enter cost of container $\$\_\_\_\_ \div \_\_\_\_\_$ Number of uses per container for your size goat =$\$\_\_\_\_\_$ per dose x _____ number of times it's given to the goat per year = $\$\_\_\_\_\_$ per year per goat.

Bug spray

Enter cost of container $\$\_\_\_\_ \div \_\_\_\_\_$ Number of uses per container for your size goat =$\$\_\_\_\_\_$ per dose x _____ number of times it's given to the goat per year = $\$\_\_\_\_\_$ per year per goat.

Or other

Enter cost of container $\$\_\_\_\_ \div \_\_\_\_\_$ Number of uses per container for your size goat =$\$\_\_\_\_\_$ per dose x _____ number of times it's given to the goat per year = $\$\_\_\_\_\_$ per year per goat.

Add the per year per goat cost of each of the above worksheets $\$\_\_\_\_ +$
$\$\_\_\_\_\_ +\$\_\_\_\_\_ +\$_____ +\$\_\_\_\_ =\$\_\_\_\_$ add this number to the worksheet in section 6.

Section 5. Barn/milk parlor cleaners or disposable items: depends on what you use. I mostly use dish soap, bleach, and vinegar so it's probably about $150 cleaners + $109 milk handling items = $259 per year regardless of number of goats.

Now it's your turn. Fill out the worksheet that applies to you.

If year-round milking:

cost of cleaner $\$_____ \div _____$number of days it lasts = $\$_____$cost per day × 365 days = $\$\_\_\_\_\_$cost per year.

If seasonally milking: cost of cleaner $\$\_\_\_\_\_ \div _____$number of days it lasts =$\$ \_\_\_\_\_$cost per day × 304 days = $\$_____$cost per 10 month lactation year.

Add the cost per year to the worksheet in section 6.

Section 6. Yearly Costs spread out to all dairy goats: Grain $244.55 + hay $110.36 + water $3.65 + health and maintenance $27.50 = $368.06 × total number of goats in dairy herd 20 = $7721.20 per year for the herd + $259 for cleaning supplies = $7980.20.

Cost from section 1 $_____ + $_____ cost from section 2 + $_____ cost from section 3 + $_____ cost from section 4 + $_____ cost from section 5 = _____ total cost of 1 milk goat per year x _____ quantity of milk goats in your herd = $_____ yearly herd cost.

Now for ease of math later on let's break that down to a 30 day cost.

Enter your yearly herd cost $_____ ÷ 365 days = $_____ daily herd cost x 30 days = $ ____ herd cost per 30 days.

Hypothetical herd production example: So with those costs, if my herd was 19 milkers and 1 Billy, and let's say 9 milkers between the ages of 1 and 3 years old, it's likely that they would average 1/2 gallon per day on a 304 day lactation so that would be 152 gallons per year from each of those 9 (.5 × 304 = 152 gallons per goat). Now take 152 × 9 = 1368 gallons per year. Now let's say the other 10 milkers are in their prime years of ages 4 - 7 and produce an average of 3 quarts per day for their 304 day lactation, that would be 228 gallons per year from each of these 10 (.75 × 304 = 228) gallons. Once again 228 × 10 = 2280 produced from this group. Now add the two groups for a yearly total. 1368+2280 = 3648 gallons produced in a year HYPOTHETICALLY. Keep in mind goat illness, injury, and Death does happen. Your dairy will not be immune to these production dropping problems. There are also costs that cannot be predicted (see veterinarian costs below). It is best if you have current real production numbers to punch in.

Now it's your turn to figure out how much your herd produces. We are going to do this in pounds, then convert it to gallons because scales weigh in pounds. First weigh all of the milk you get from all of your milkers at least once per month so this can be redone as the year goes on to keep things accurate. Don't forget to zero the scale to your bucket! Once you have that day's production number, fill in the worksheet below.

Pounds of milk per day produced _____ pounds x 30 days = _____ approximate number of pounds produced per 30 days ÷ 8.6 = _____ approximate number of gallons produced.

Please note that production is variable starting low (a quart or less) then growing (a gallon or more) then dropping until the doe is dry about 10 months later (304 day average). The more you monitor your daily production, the more accurate your cost per gallon will be.

Note: There is 8.6 pounds of milk in a gallon. 4.3 pounds in a half gallon and 2.15 pounds in a quart. 16 ounces is 1 pound.

Pricing

Section 7. Now that we have our production, numbers and our cost of production, we need to determine the break even price per gallon. $7980.20 cost ÷ 3648 gallons produced = $2.18755 round up to $2.19 and you have your cost per gallon. Let's also break that down to a weekly production for later 3648 gallons ÷ 304 days = 12 gallons per day × 7 days = 84 gallons a week.

Now it's your turn, but we are going to use your approximate 30 day production number and your 30 day cost of production number instead of the hypothetical yearly math example I gave.

Enter your 30 day cost $_____ ÷ _____ number of gallons produced in 30 days = $_____ cost per gallon for that 30 day period. Now let's break it down to a 1 week production for the next part.

Number of gallons produced in 30 days _____ ÷ 30 days = _____ gallons per day x 7days = _____ gallons per week produced.

Now you need to decide how much your time is worth to you. For ease of math, let's say minimum wage is $10 per hour. I can tell you straight up your going to be working at least 14 hour days 6 days a week + milking time on the 7th day unless you leave the kids on them, with no sick days, no vacations

and no overtime pay. That's why they call it a lifestyle. So I'm going with 14 hours × 6 days = 84 hour week average × $10 per hour = $840 per week. ÷ the weekly production number from above of 84 gallons = $10 per gallon + the cost of $ 2.19 per gallon = 12.19 per gallon for you to make minimum wage without overtime pay. At that price I think it's doubtful that you would be able to sell all the milk before it goes bad. Raw milk has a shelf life of 3 days if handled properly and pasteurized milk has a shelf life of 9 days. Freezing it is a possibility but adds cost as well. So whatever you price your milk at make sure you are selling above cost! And don't be afraid to feel out what your customers will pay! Start at what you want to get for it, advertise well and If you don't get enough takers try lowering the price slowly in small increments until you find the price point that has you selling out. Redo the math and make sure you are profiting enough to stay afloat.

Enter amount of hours that you work your dairy per day_____ x_____number of days you work your dairy = _____ hours worked per week x $_____ dollar per hour you want = $_____ per week you would get if you sold all the milk ÷ _____gallons the weekly milk production number above = $_____ dollar amount per gallon (profit needed) + _____ the cost per gallon = $_____ total amount to charge per gallon for the milk alone.

Now you need to decide on containers for the milk. Even with jar deposits, the jars don't come back so add the cost of the container and let them keep it, or only fill their containers, however, if they are not clean enough, you will end up washing containers for them. Trust me I know. Letting them clean the containers also adds a food poisoning risk to the sale, especially if they use plastic or old milk jugs. People are just not aware of the issues with milk containers.

Enter total amount per gallon from above $_____ + $_____ amount paid for container = $_____ your price per gallon.

If the price is too high look for other options in all categories to lower cost and/or consider a pay cut! How much do you want to dairy?

Veterinarian costs:
Veterinarian costs are impossible to determine in advance. For example, some people treat mastitis with over-the-counter treatments (about $50) and if they are found to not work, the goat is liquidated via an auction house to receive what little recovery cost they can. Others take the goat with mastitis to the veterinarian for treatment, where the highest bill I have heard of was $3000 with $500 to $1500 being more average. If you are opening a licensed dairy, an on-call veterinarian is required by law in my state, as well as yearly farm visits and blood work. Having an on-call veterinarian normally comes with yearly fees. In this case, your State's milk laws will determine vet costs in part.

CLOSING

Thank you for your consideration and I wish you well in your goat dairy career! If you have a farm big enough to produce your own hay and/or parts of your own grain, you can get your cost down a lot. Another tip I have, is to use the waste hay as bedding as opposed to buying straw.

Always look for the most efficient methods to complete a task. Example: highly palatable hay will be less wasted. Make sure that the dewormers (herbal or chemical) are working properly or else you are throwing money down the drain. Optimize your milking and goat handling set up to be more time efficient (more jobs done per hour saves money) and never stop improving. You can do it!

Good Luck
Happy Goat Creamery