

## WHAT ARE UNITS AMONG FRIENDS?

Jack K. Horner

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Good news rarely rings after nine at night in northern New Mexico. When my phone rang at 9:15 yesterday evening, I braced for bad.

"How much is 300 milligrams?", the fairly desperate caller opened without identifying himself.

I surmised it was my long-time friend Will Dickersom, because he is the only person I know who more or less expects everybody to be able to step into the middle of his thoughts. Will practiced family law for thirty years. How, given his disposition to communicate far less than required, is one of the deeper mysteries of our time. In retirement, he decided to raise a few head of Herefords as a hobby, on the theory that anyone who could master the law could master animal husbandry. He eventually learned that some theories are best kept in the courtroom and out of the paddock. His hobby became his life. It was a safe bet the phone call was about the bovine members of his family.

"Of what?", I asked.

"300 milligrams."

I couldn't suppress the feeling we had been there already, wherever that was.

"One of my cows is gassy", Will continued, "and I need to know how much 300 milligrams is."

"Are you trying to measure a liquid or a solid?", I queried.

"It's a liquid, and it's real thick. It's going to be hard to get in there with a large-bore needle, and I'll probably get kicked."

"Depends on the density of the liquid", I said, trying to corral a topic that had no intention of being confined to Texas. "Let's suppose that it has the density of water. Then 300 milligrams would be about 0.3 cubic centimeters (ccs), which is about six drops. If the liquid is twice as dense as water, maybe 0.15 cc."

"That's not very much!" he exclaimed. "It says I should use 300 ml!"

"ml"? Then you mean 300 milliliters, not 300 milligrams."

"Milligrams, milliliters, ccs, grams -- they're all the same to me", he countered.

I have learned that it is best not to try master all the logic of such revelations at once. You start small, where you might have a chance.

"How much medicine is in the container you have?"

"It says 500 ml", he replied.

"Then you want to use about  $\frac{2}{3}$  of the container -- a little more than a cup".

"Boy, that's a lot! I'll probably get kicked while I'm trying to inject it into her rumen!"

I had no reason to believe otherwise. Although I don't have a rumen and haven't thought much about getting one, I would not be amused if somebody stuck a foot-long 0.22-caliber needle in my side. That said, I am no stranger to rumens. When I was much younger, one of my jobs was to extract rumen juice from a fistula (a fancy name for a hole) in a cow's side every few hours to determine whether a drug used to control shipping fever was working correctly. In the interests of good taste, I will simply say that rumen juice has an odor that could strip the chrome off a trailer hitch at a 100 yards. The cow didn't think much of the exercise, either.

"I recommend you get a vet to do the job."

"I had the phone number of one in Chamisa written down somewhere, but I lost it", he said. "So that's why I called. How much did you say 300 milligrams was again?"

For further information, see *Pocket Ref* by T. J. Glover (Sequoia Publishing, Littleton, CO). This wonderful little book contains more units conversion information than you could use in a lifetime (and much more), including how to convert a Koku (a Japanese unit of volume, about 180.39 liters) to a Last (a British unit of volume, about 2909.4 liters). You can find it in many hardware stores. I never go down to the paddock without my copy.