

# CALVING EASE

March 2014

Sam Leadley, Attica Veterinary Associates

## Buying and Using Household Bleach

- **Buy the fresh stuff at a busy market. Bleach loses its activity over time.**
- **All household bleach is not the same product – there are big differences in the concentration of the active bleaching ingredient varying from 5.25 to 9.5%**
- **Dilution rates depend on our purpose: washing = 150ppm, sanitizing = 500ppm, soaking = 2,000ppm [ppm=parts per million]**
- **Tables at [www.calfacts.com](http://www.calfacts.com) show dilution rates for 6 and 9 percent products. Also, a spreadsheet showing the amount of bleach to add to water to arrive at the desired PPM is available to modify if your product is other than 6 or 9 percent.**

### Buy the Fresh Stuff

All bleach loses its activity over time. No matter whether the container has been opened or not the activity level goes downhill the longer you have the product. Warmer storage conditions (over 70F) encourage more rapid losses of activity.

So, buy the fresh stuff. Also, it may be a good idea to stick with either the store or a national brand of bleach. A few surveys of bleach products have found some evidence that brands that are so cheap it is hard to believe the price may not consistently deliver the labelled concentration of the active ingredient, sodium hypochlorite.

The “fresh stuff” at a busy grocery store is a good source of seasonally-concentrated bleach. Bleach at these stores is most likely no more than a month or two old. Did you know that manufacturers increase their concentration of sodium hypochlorite for summer sales or for warm-climate customers? That makes sure their product delivers at least the labelled concentration.

Buying Rule of Thumb? Try to stock household bleach in quantities that will last only three to five months. If you are buying for summer or a warm climate, lean toward having a stock of bleach that will turn over in three months or less.

Throw out the older stuff? No, just use more. A rough guide to use up product that has been around over six months is to add ½ again more than usual. A year or so old, use twice as much.

## **Dilution Rates Depend on Concentration We Buy**

We all know that the more concentrated the product we buy the less we need to add to water to get the desired chlorine level. At [www.calffacts.com](http://www.calffacts.com) there are sets of dilution tables for 6% and 9% sodium hypochlorite household bleach products. The tables allow you to choose the PPM chlorine level and the volume of water. The body of the table tells the user how much bleach to use – in either ml or fluid ounces or cups.

Because all of these PPM levels are rough guides for cleaning and sanitizing it is not usually worthwhile to spend too much time measuring the bleach. Usually, close is plenty close enough – a little extra bleach won't do any harm and the product is inexpensive.

If you have access to a product with a sodium hypochlorite concentration significantly different than 6 or 9 percent go to this spreadsheet: [click [HERE](#)]. This file will download – you have to open it. Then, change the value in cell B3 (currently 0.15) to your product value. For example if your product is 12% concentration you would enter 0.12.

## **Using Household Bleach for Cleaning Feeding Equipment**

Remember why we are using household bleach as part of our cleaning procedures. We want to improve our efforts to remove protein from equipment. This is during the wash step. [Recall that the recommended wash protocol is (1) Rinse (2) Wash (3) Rinse (4) Dry – see [www.calffacts.com](http://www.calffacts.com), Washing Milk Containers: Checklist.] The recommended concentration of chlorine for washing is 150 parts per million (PPM).

By combining household bleach with a detergent we can effectively lift milk proteins off of equipment surfaces. During manual washing vigorous brushing improves our cleaning efficiency. Remember, too, that our success depends on keeping our wash water above 120F. See the January issue of Calving Ease: Wash water always above 120F [click [HERE](#).]

We may get some bacteria kill, also, during our wash procedure. Parasites such as coccidia and cryptosporidia will not be killed by household bleach. Primarily we have to depend on flushing them away during our pre-wash rinse. Or, use plenty of wash water and hope that the solution to pollution is dilution.

## **Using Household Bleach for Sanitizing and/or Soaking Equipment**

The recommended concentrations of chlorine for sanitizing and soaking feeding equipment are 500 PPM and 2,000 PPM. Generally, it is not economically feasible to use concentrations like this for washing equipment. Consider also that the more concentrated the solution the greater the risk for accidental chlorine exposure to human skin, eyes, nose and mouth.

Our thanks to Attica Veterinary Associates, P.C. for supporting Calving Ease.