

Defective Milk Protocol

Swirl and sniff before tasting and expectorating.

Use base of whole recently pasteurized milk, protected from light, for all. Store all at 4°C.

Taste all after preparation and adjust, if necessary – record changes for next batch.

For calculations - At 29.6 mls/oz, there are 1894 mls/half gallon.

CONTROL - Protect from light and keep cold.**Flat** - watery, less sweet, tasteless**Substitute 300 mls spring water for 300 mls milk per half gallon for approx. 15% flat.****Feed** - sweet hay aroma and grassy taste (or fermented silage/alcohol odor) **(May be weighed ahead and stored in freezer.)****Removing stems and dried pieces, weigh 10 g of alfalfa into a zip-lock bag* and add 100 mls spring water.****Make several batches at once in separate bags. (Note: Do not double batches in same bag - makes weaker "feed.")****Squish 20 times to mix and extract feed flavor and hold under refrigeration for 1 hour, mixing often.****Catching alfalfa in strainer, pour liquid into a wide cool whip-type container to commingle batches.****Squeeze bags to press out all liquid, then pour commingled liquid into another container through cheesecloth by****pouring liquid directly (to minimize loss) through hole of a funnel lined with loose cheesecloth.****Tighten lids, store in fridge. Carefully pipet and substitute for 60 mls of milk per half gallon for a "definite" feed flavor.****Alternative Method: Sitr alfalfa together with water in a pot and cook on the stove until boiling.****Strain out alfalfa as described above, and add 60mls per half gallon.****Light Oxidized** - plastic odor and taste (or tallowy or burnt feathers)**Place milk (in clear or translucent container) into a cooled light box or in front of light in a cooler.****Expose for at least 6 hours (overnight is OK) at 2000 lux (use light meter to check intensity).****Or in direct sunlight on ice: Slight - 8-9 min. Definite - 10-11 min. Pronounced - 12-15 min.****Malty** - similar to Grape Nuts cereal or malt in malted milk balls**Add 15 g Grape Nuts cereal to 100 ml milk.****Strain through cheesecloth and add back into original refrigerated half gallon.****Acid** - tingling buttermilk taste**Cover, swirl well and let sit in fridge for 30 minutes, swirling occasionally.****Substitute 300 mls buttermilk (preferably highly acidic, unsalted) for 300 mls of milk per half gallon.****For Acid/Malty mixture - add 30 g Grape Nuts to 100 mls, strain after 1/2 hour, substitute 200 with buttermilk, then combine.****Rancid** - cheesy, pungent odor - will smell like baby's vomit when rubbed on wrist**20 g strong American provolone (not smoked & kept frozen until use)/half gallon****Leave in large chunks that will still fit through funnel to prevent milk contact with too much salt.****Let sit for 24 hours. Strain through cheesecloth into original half gallon container that has been kept under refrigeration.****Garlic/Onion** - odor and taste of either/both**Pour one half gallon of milk into another clean container. Add 1.5 g (e.g., 150 mls juice:25 mls vinegar; freeze 25 ml aliquots)****Hold for 1/2 hour, inverting several times. Filter through cheesecloth. Add 2 mls liquid onion. Mix well.****Bitter** - lingering aftertaste as from tonic water (quinine), strong coffee, grapefruit - no odor by itself**Add 1.00 g caffeine to 300 mls milk. Add stir bar and stir vigorously on stir plate for 30 minutes.****Add back to refrigerated half gallon for a "definite" bitter flavor.****Salty** - may occur in herds with high rates of mastitis or if farmer is attempting to mask added water**5.68 g NaCl/half gallon for definitely ("5") salty. Adjust as needed.****Foreign/Chemical** - odor/taste from exposure to chlorine, sanitizer, cow medications, exhaust fumes, citrus fruits.**Make dilute solution in a vial for "odor only."2% chlorine solution - 4 mls/200 mls water for 20 vials****Or - add plant's chemical sanitizer to a detectable level.****Or - substitute 100 mls OJ for milk.****Lipid Oxidized/Metallic** - exposure to light or auto-oxidation of unsat. fatty acids (phospholipids) - catalyzed by certain metals -**(copper, iron) - spontaneous – related to cow condition (lack of anti-oxidants, e.g., vitamin E) or high fat feeds (e.g., soy beans).****Crush and add 3 oxidized (old) unsalted crackers per 1/2 gallon. Mix well, let sit in fridge 1 hour. Strain.****Or: Dip 2 pennies in rubbing alcohol. Let dry and allow to sit in a gallon of milk for 2 hours.****Mix well.****Unclean**- store samples under refrigeration for an extended amount of time. Select "putrid" smelling sample.

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