Fiji TechNote 5 – The 'New' Tabu Soro Milker

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The idea of a 'transitional' machine to fit in with current and future plans for milking machines is a good one, with a much lower capital cost than conventional pipeline machines, and fewer hygiene problems. The one developed in the late 1970s was named locally, the Tabu Soro, "It never lets you down".

Most of the parts can be found easily. One can use conventional test buckets *or* make up an adapter to fit the normal milk can so the milk goes into it directly.

In a walkthrough farm dairy, the vacuum supply, pump, electric or other motor, vacuum tank and regulator would be in the milk room and connected through to the milking area with a single pipe, the vacuum line. Having the vacuum pump in another room makes milking much quieter, better for people and cows.

In between each pair of bails sits the bucket and claws, etc. similar to portable bucket milkers. The can is connected through to the vacuum line via a vacuum tap or snap clamp. Mounted up on the boards above or directly on the vacuum line – not on the can lid – are the pulsators. Simple!

The reason for using the can to collect the milk being the same on used to transport the milk is to save cleaning and reduce potential contamination; otherwise test buckets would be fine.

Components needed:
A vacuum pump and motor. An NZ Skellerup M1 vacuum pump and a 1.1 kW motor, V-belt driven on a frame is one way to do this. So too is a Masport Major running slowly at around 300 rpm. One needs cheap, reliable, low maintenance vacuum pumps.

An interceptor/vacuum tank to protect the vacuum pump is helpful.

A regulator, such as a Waikato 170A or similar.

A walk-through farm dairy. The walk-through design suits smaller herds and is economical to build.

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Pulsators. Keeping them high and using clear PVC tubing lessens the risk of getting them filled with milk by accident; 32mm or 38mm stainless steel piping, rubber elbows or stainless-steel bends plus rubber sleeves connect everything together.

Inlets to the vacuum line for the vacuum connections to each test bucket or can (15mm), plus a vacuum tap or snap clamp for each can. One sealing lid to connect the vacuum system to each can or test bucket.

Vacuum line inlets, one for each pulsator leading to two clusters and mounts to go on the wall or the pipeline. They can be mounted directly on to the vacuum pipeline using Waikato fittings.

Claws, shells, liners and claw tubing to suit.

Simple, oil lubricated vacuum.

Pump and motor mounted on interceptor/vacuum tank to protect vacuum pump from damage.

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Vacuum connection to vacuum line. One could use a simple snap clamp instead of the valve.

Connection to the vacuum system with clamp-on fitting plus snap clamp as shut-off valve.

Waikato 170A regulator controls the vacuum level.

A gauge to check the vacuum level.

An automatic pulsator to 'rest' the cows while milking. It is mounted on the vacuum line and serves two cows.

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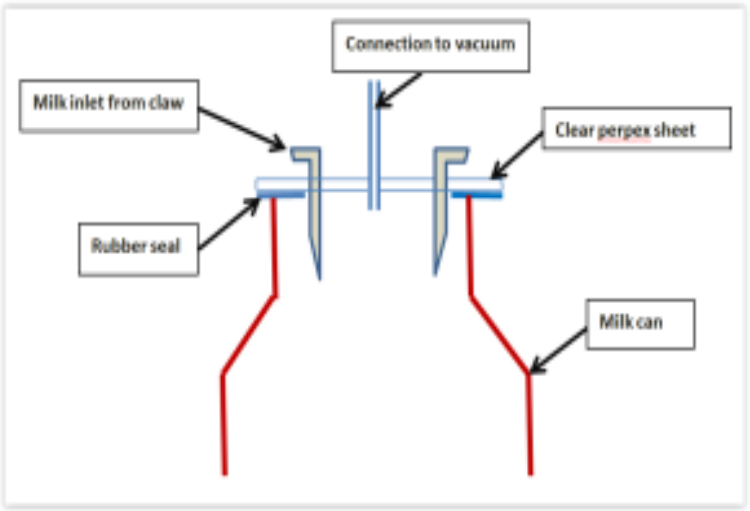
*Mounting the pulsator on the bucket is a **bad idea** as it inevitably gets milk inside. Instead, keep the pulsator high and use clear PVC tubing to the claw so one can see if milk is getting inside the tubing.*



Using a milk can. *The adapter connecting the milk and air tubing to the can would probably be a sheet of Perspex with pipes going through it and a rubber seal to sit on top of the can. Using the normal milk can gives one less item to clean helping the farmer produce better quality milk. One major reason for the Tabu Soro being the way it was simply to lessen the risk of milk quality problems with machine milking by inexperienced people.*

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