



Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION – JULY 2012

CLEANING AND SANITATION BASICS: I. SOIL CHARACTERISTICS

The commercial cleaning compounds include components that modify the nature of water so that it may efficiently penetrate, dislodge and carry away surface contamination that is commonly referred to as “soil”. The composition and concentration of cleaning compounds to be used and the method of cleaning is dependent upon the nature of soil:

Type of soil	Solubility characteristics	Ease of removal	Changes induced by heating soiled surface
Sugar	Water soluble	Easy	Carmelization, more difficult to clean
Fat	Water insoluble, alkali soluble	Difficult	Polymerization, more difficult to clean
Protein	Water insoluble, alkali, soluble, acid soluble	Very difficult	Denaturation, much more difficult to clean
Salts: Monovalent	Water soluble, acid soluble	Easy	--
Salts: Polyvalent (i.e., CaPO ₄)	Water insoluble, acid soluble	Difficult	Interactions with other constituents, more difficult to clean

The relative concentrations of water soluble, alkali soluble and acid soluble soils will vary as a function of the process and the product. The primary constituent of all cleaners is water. **Water hardness** (concentration of salts of magnesium and calcium- classified as soft [0-60ppm], moderate [60-120 ppm], hard [120-180 ppm], and very hard [>180 ppm]) can be a major problem in the use of cleaners by reducing effectiveness and by forming surface deposits. Suspended matter and soluble iron and manganese can be removed only by treatment, whereas small amounts of water hardness can be eliminated by sequestering agents in the cleaning compounds. However, in hard or very hard water supplies, pretreatment of the water may be necessary.



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