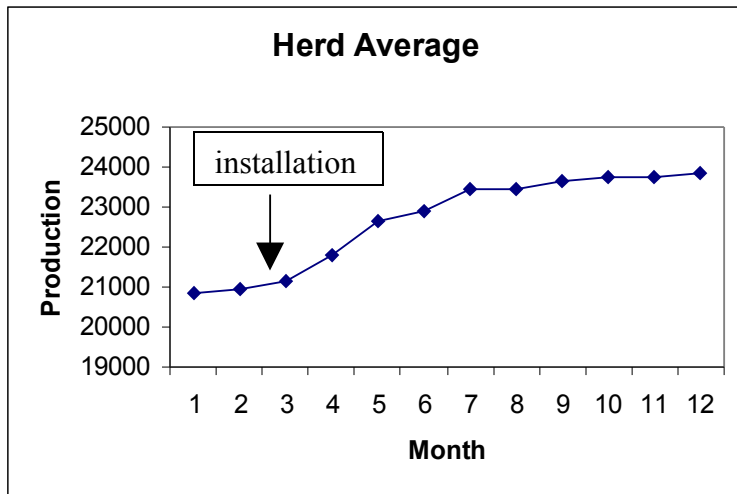
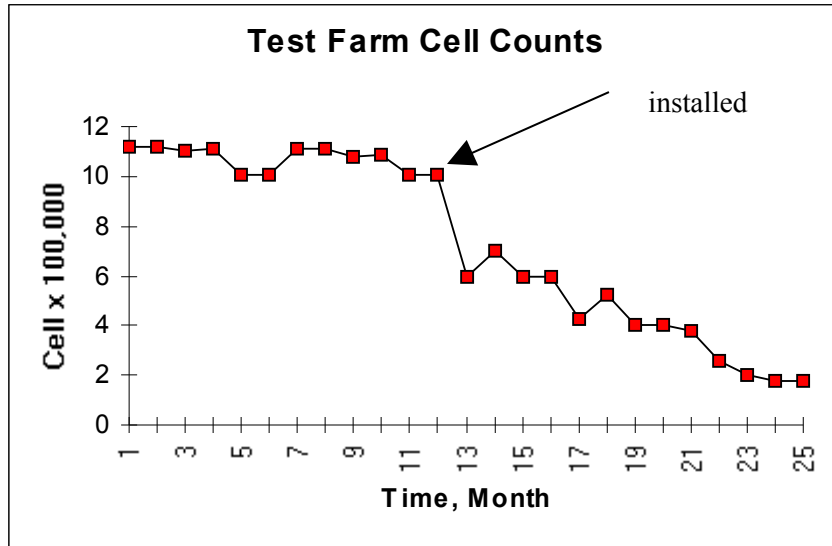
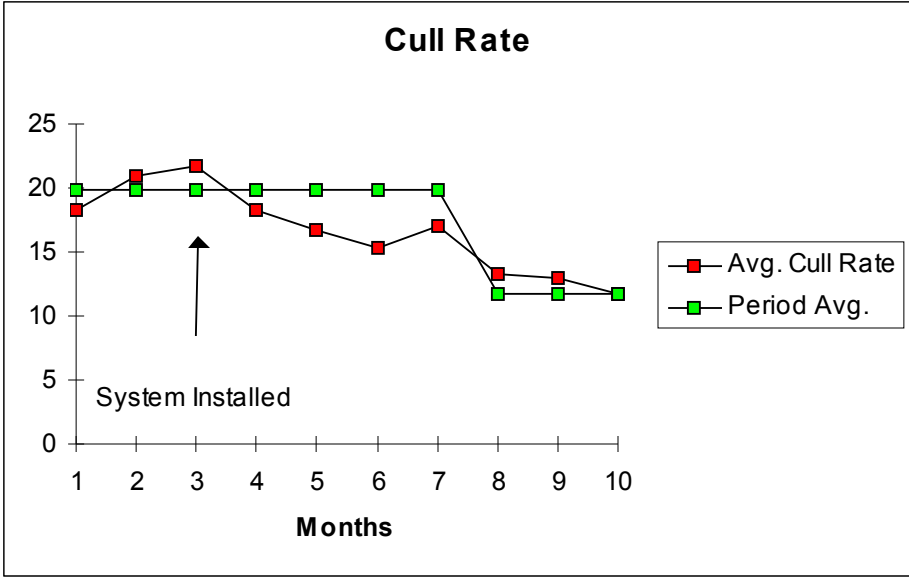


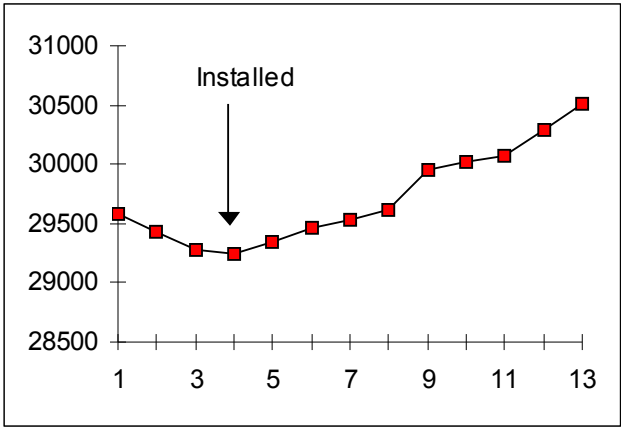
The data below is for the original herd that was used to validate the performance of the system. The herd consisted of approximately 72 holsteins. The herd typically had a bulk SCC level well above 750,000 and often above the legal limit (limit was 1,000,000 at the time) for several years. The herd did not generate its own replacements and instead purchased replacements through herd dispersals with the replacements often having a prior history of mastitis problems. The plot shows the average SCC level for about one year prior to installation of the prototype system and about one year following installation.



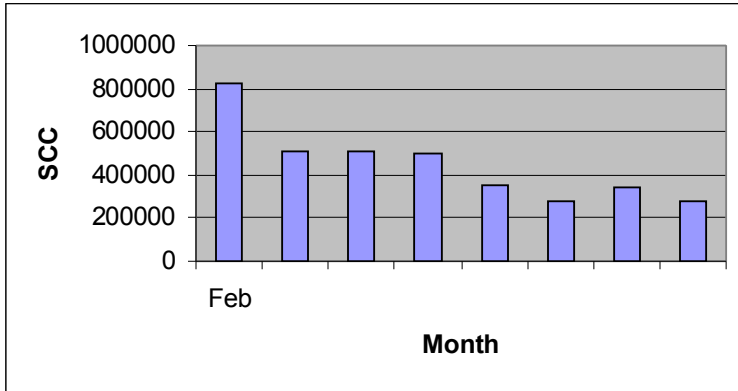
Herd product data for PA herd based on DHI.



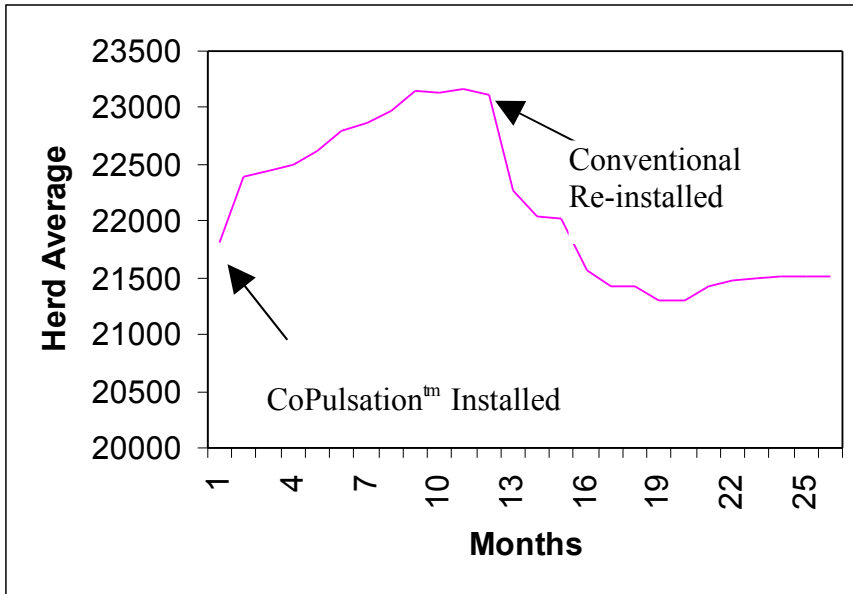
Cull rate data for VT herd of approximately 400 cows



NYS herd A, 100 cows, DHI production herd average



NYS herd B, 30 cow herd, herd was split into two groups for about two years with one half milked with conventional, SCC levels in excess of legal limit forced termination of study and removal of conventional system and resulted in substantial reduction in bulk SCC levels. It should be noted that several cows from the conventional group had Staph aureus and remained in the herd. Cultures from the herd showed that the rate of new Staph aureus cases was several times greater for the conventionally milked half and incidence of environmental mastitis was also measurably higher.



NYS herd C, DHI production herd average, provides a comparative switch back study of 120 cows. The dairy farmer's Surge dealer would not maintain the farmer's other equipment forcing removal of the system.