

Cost Effectiveness of Precision Technologies

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Attempting to assess the cost benefit of new precision technologies in specific farm applications is a minefield of unknowns and misassumptions. Since every situation is unique, at best we can make some general observations on process and experiences and even these will be of limited value unless the technology has demonstrated its value on many farms already. Such assessments should always be done on a partial budget basis where the potential for new income is weighed against the expectation of new expenses. Items such as pedometry which replace the direct expenses involved in the drug induced reproduction management are easiest to assess and have proven to be cost effective on most farms with more than 100 cows in a freestall setting. Since labour is the costliest input on dairy farms, technology that replaces labour such as robotic milking has great potential but will only be cost effective if it replaces paid labour, or productive uses for the time saved can be found. Since these uses usually involve expansion, current Ontario quota policies are very detrimental to the long term modernization of the industry. Technologies that improve lifestyle may not be cost effective but should not be discounted entirely since we all need our "toys" and if they can make work more pleasant their overall impact may be much more positive than that of the "toys" that take us away from the job. Automatic calf feeding and technology around streamlining cow handling, cow ID and record keeping have also proven cost effective on many farms. After milking (40%) feeding (30%) is the second largest labour input and will be the next big frontier in automation. Sensor based technologies that provide new information and improve management yield mostly soft benefits in terms of improved production, health and reproduction and these are the hardest technologies to quantify a payback for. In general we have high expectations because broad application of technology makes it very cheap very quickly. There are 7 billion people in the world and likely half of them will have cell phones in our lifetime. But there are probably less than 300,000 dairy herds with more than 100 cows worldwide, so technology specific to dairy production will never be in this realm.