

❖ "CREAM OF THE CROP"

At harvest time, mature crops are gathered from fields, orchards or vineyards mechanically or manually by pickers. For growers, there are two indicators of productivity. The first one is the agricultural productivity. This productivity indicator can be calculated in kilograms or tons per acre or per hectare. When the crop is weighed there is a need to identify the field where it was harvested. Another value that needs to be determined is pickers' productivity. This is done by keeping a running total weight by picker.

Reference	<b>24-11277</b>
SIC Code	<b>016x/017x</b>
Platform	<b>M1310</b>



Harvested fruits and vegetables are carried in bins, totes or boxes. Sometimes, several containers are weighed on a single pallet. There has to be a way of adding-up tare weights of all those containers in order to determine the net weight of fruits or vegetables.

Our solution allows the operator to enter for each weighing, a field code and a picker ID. He can then select the pallet type, a container type and enter the number of containers on the pallet. From entered data, the system can determine the total tare weight and then calculate the net weight. This information is stored in the Model 1310 and can be used in reports.

Besides fruit and vegetable growers and processing plants, this system can also be used by wine producers. Wineries also need to keep track of grade and variety of grapes.

M.T.



## ❖ WIRELESS COMMUNICATION-OPERATING RANGE

More and more, wireless modems are used as cable replacements for data communication. There can be significant savings, especially in outdoor applications. One of the criteria to consider when selecting wireless communication equipment is the operating range.

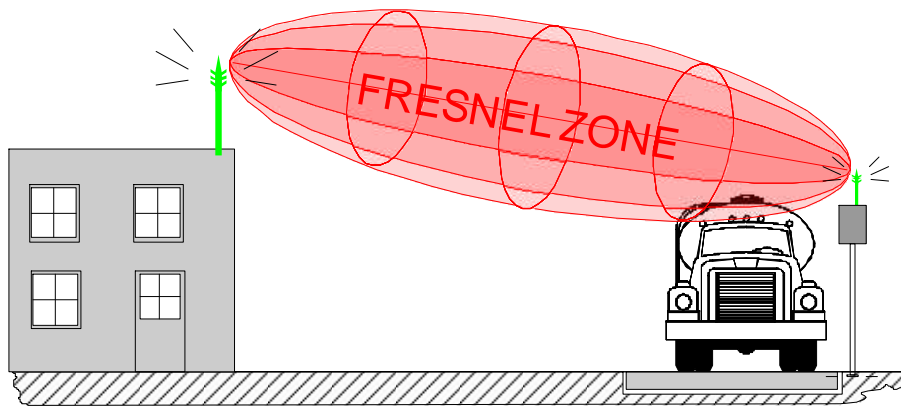
Let's look at parameters that can impact on the communication range.

- Transmitter power and receiver sensitivity

These are intrinsic characteristics of a wireless modem. The transmit power output is measured in milliWatts (mW) or Watts (W). For similar operating conditions, a wireless modem with a higher output power will have a longer range. The transmitting power is regulated by government agencies such as the FCC or Communication Canada.

- Obstacles

The word '*line-of-sight*' (LOS) is often used when describing a wireless communication application. The '*line*' is actually an area or a zone. It is called the Fresnel zone and has the shape of a football. There are savant equations to calculate the height and width of the Fresnel zone depending on the distance between antennas, however, what is important to remember is that obstacles such as the ground, buildings, vegetation and vehicles present in the Fresnel zone will reduce the effective range.



- Antenna

The type of antenna used also has a big impact on range. An antenna with a higher gain will improve the range in a line-of-sight environment. The beam width of high gain antennas being narrower than the beam width of low gain antennas, this type of antenna is more suited for point-to-point communication applications.

- Frequency

There are two popular frequencies for wireless communication equipment: 900 MHz and 2.4 GHz. The reason these frequencies are popular is because they are unlicensed ISM (industrial, scientific and medical) radio frequency bands. This means that a license is not required for transmitting data on these frequencies. The fact that they are popular also means that there are more probabilities of interferences with other devices on the same frequencies. (WiFi, wireless phones ...)

Longer operating ranges can be achieved on the 900 MHz frequency. However, this is a license-free band only in North America.