

Exhibit 1

10 (a) Description of equipment : The experimental equipment specified below is to be used as a bird deterrent in horticultural crops. To do this the equipment will perform the following functions :

1. Detect birds entering the crop via a known flight path
2. From the detection unit, remotely activate deterrents.

Function 1. has been implemented as follows :

- A microwave signal is transmitted into an area
- A microwave receiver is located up to 200m away from the transmitter
- A bird flying into the area reflects part of the microwave signal back to the receiver.
- This reflected microwave bird signal is then processed to determine that the signal is a bird and not some other unwanted signal.

Function 2 follows from function 1 as follows.

- Once a bird has been detected a VHF F.M transmitter is activated.
- The VHF transmitter is modulated by a tone
- A remote VHF receiver demodulates the tone.
- Deterrents are activated.

The microwave transmitter and receiver both use horn antennas with 40 * 40 degree, 3dB beam widths. These will face each other giving a detection zone, which approximates two intersecting 40-degree cones.

The VHF transmitter uses a helical whip antenna whose gain will not exceed 1dB over an isotropic antenna.

10 (b) Specific Objectives : A limited market study is proposed, where imported equipment performing the above functions with the stated specifications will be used.

The market study through demonstrations of the equipment will

- Indicate likely demand for the systems. A true evaluation of this will not be possible unless growers have hands on experience of the system.
- Indicate the systems efficacy in U.S conditions
- Identify any specific requirements for operation in the U.S.

Should demonstrations of the equipment be successful then the equipment will be adapted to comply with part 15 regulations.

10 (c) The above experimentation is likely to increase the utilization of the spectrum, as part 15 will most likely be complied with using spread spectrum. Demonstrations in Australia have also been successful, if the same level of success can be found in the US then many growers in rural areas are likely to start using the systems.

Exhibit 2

Additional transmitter used at each site

F (A)	Power (B)	Power (C)	Power (D)	EMISSION	MOD SIG	B.W
40.68MHz	500mW	560mW	560mW	Q-Pulsed F.M	(2) 3000Hz (3) 3000Hz (4) Duration : 10 S Repetition : average 10min	See note 1

Note 1: Necessary bandwidth : 20kHz measured at 20 dB down from the carrier.

Antenna type used : Helical Whip

Beamwidth : 360 degrees

Horizontal plane : 360 degrees

Vertical plane : 360 degrees