The ROBINVALE SENTINEL writes on a brilliant Sri Lankan Inventor

Local Inventor, Manjula, Takes Award

The Sentinel had the honour to talk to the "inventor of the Year" winner awarded by the Inventors Association of Australia. Manjula Nishantha, Possibly known by his anglicised name locally, Mark Nish.

Each year the inventors Association of Australia holds a competition for "Inventor of the Year" Their competition winner this year is Manjula from Robinvale with his vine crop spraying system. The Newsletter from the inventors Association records the following about the "Multi row, foliar and weedicide application".

Manjula explained that the foliage of vines which are planted in rows are normally sprayed at a different time to the weeds and by combining the two into one machine it would represent a large saving in equipment costs and would also save labour.

The current practice is to use expensive, 85,100hp tractors that are permanently coupled to the spraying equipment so they cannot be used for other purposes, so more equipment has to be purchased. His equipment so they cannot be used for other purposes, so more equipment has to be purchased. His equipment is a self-contained trailer that requires much less horse powered tractors to pull and can be released for the tractor to be used for other purposes. The investment for new growers is therefore considerably less and the labour and running costs will be decreased.

Spray coverage.

Most current sprayer manufactures try to achieve maximum spray coverage by using high air flow technology which causes drift and cannot be used in windy conditions near other crops, During the season, spraying can be done there times a week.

Manjula's innovation is to use high airflow combined with highly efficient electrostatic nozzle adaptors to get a better spray coverage with low levels of spray drift which is more environmentally friendly. He has a patent on this system with the combination of weed and foliar spraying system.

He also has a patent on his multi point electrostatic discharge adaptor for spray nozzles. These work by inducting a negative charge from the spray droplets with a positive charge from the ground (and therefore the vines and fruit) so that the spray wraps around fruit and leaves better whereas the normal system only directs the spray to the front of the fruit wrap around is very important in reducing fruit spoilage as well as more efficient use of the chemicals. Manjula demonstrated this in a video and with images of an apple sprayed with paint and the differences of spray coverage with and without electrostatic charge.

Another part of Manjula's IP is a patent for a chain suspension (below) for the nozzles which makes it easier to adjust the direction of spray.

Spray width control mechanism patent.

Manjula recognized that the long arms and single pivot increased the length of conventional machines when they were folded back. These arms are extended to spray adjacent aisles at the same time as the aisle being traversed by the machinery. To overcome this problem he created a slider for the pivot point of each extended arm along a frame on the trailer which enabled the arms to slide towards the front of the trailer as they were contracted which caused the arms to take up less space and overhang the machinery less at the rear.

The Multi row, foliar and weedicide applicator.

Manjula and his family, Subashini his wife, daughter Neli and son Vidu.

Apart from all the sheet works, the nozzles, piping and pumps, Manjula had to design the circuitry to enable it to perform intuitively and easily. He designed his own circuits. The man control board and a remote control for all the adjustments, flows, on off values and groups of nozzles.

Manjula has been in Australia for ten years now and eight of those years have been in Robinvale. When the sentinel asked Manjula where he got his idea from, the Sentinel was remained of that old saying "Necessity is the mother of invention."

Manjula has been an agronomist and in his life here has made many friends who has beard talking about their problems in trying to save money. He saw that existing sprays were just not doing the job efficiently so after four years of work experimentation and trial and error he has his prototype.

Again a piece from the inventors Association Newsletter, a really great story, "Building the prototype presented many challenges for Manjula, not least of all was tens of thousands of dollars needed for the materials and the management of his time considering his job and young family, plus a workshop.

When he was contemplating whether to go ahead or not his five year old daughter said "Dad, you have fixed all of my toys, so you can build this machine. If you want, I have got money in my money bank and I will give it all to you.
That was enough for him to get started and persevere with building the prototype.

the sentinel asked Manjula Has he always been an inventor ?

With a bit of a grin he answered I think so He told the sentinel that he has always had hobbies involving electronics and fiddling with little things that convinced us that he is one multi-talented guy.

When he was asked what is next ? His reply indicated that he has an idea to do with agriculture but in a different area.

Courtesy
The ROBINVALE SENTINEL