Hand Sprayers

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Type of Hand Sprayers

- Semi-automatic knapsack type
- Shoulder type
- Hand held type
- Automatic shoulder or knapsack
Population and use

- Semi-automatic knapsack type
  - The most common type is 16 l capacity available with almost every household
- Shoulder type
  - Low capacity sprayers population is very few
- Hand held type
  - Used in home gardening
- Automatic shoulder or knapsack type
  - Very few
Accidents from different farm machinery
Mode of damages

• Environmental damage
• Crop damage
• Human damage
• Machine damage
Environmental damage

- Chemical Pollution (Specially pollution of drinking water)
Crop damage

• Overdose
  - Due to wrong flow rate
  - Due to wrong droplet size and density

• Dripping
  - Due to nozzle faults
  - Due to control valve problem
Human damage

• Injuries
  - Due to poor construction of tank and accessories (very serious when working with high toxic chemicals – sharp edges, weak straps etc)

• Long term permanent damages (Back pain etc)
  – Due to drudgery (wrong construction of components, unacceptable weight)

• Loss of lives
  - Many accidents caused by direct contact with the toxic chemicals leaking through joints and tank.
Machine damage

• Poor manufacturing quality (poor welding etc)
• Poor material quality and selection (weak straps and hinges, very thin gauge, hoses without reinforcement etc)
• Wrong designs (Tank shape, without skirts etc)

Because of the unreliable machines, unnecessary delay in crop protection operation resulting yield loss)
Testing & Evaluation Procedure

• National Testing Centres are responsible
• Use National test codes and procedure derived from former RNAM test codes with slight modifications added from Japanese test codes etc
• Testing and certification is not mandatory
• However a draft Farm Machinery Act (Sri Lanka) is being prepared including T & E a mandatory requirement
Contents of the Testing and Evaluation Procedure

• General Performance (Discharge rate, Droplet size, Droplet density, spray pattern etc)

• Construction of important components (Straps, Tank, Lid, Hose, Lance, Control valve etc)

• Safety (Strength of important components, Sharp edges, leaks etc)

• Durability