We claim:

1. A method of injecting liquid into a tree or palm at predetermined injection pressure with an injection apparatus, the method comprising:

providing an apparatus (10) for injecting liquid into a tree or palm having a variable volume dosing chamber (30) with a plunger (55) disposed within the chamber and a chamber inlet (35) and outlet (40), the inlet and outlet in fluid communication with a common volume of the chamber, wherein the plunger translates in a linear direction relative to the chamber along a common longitudinal axis; a power source (60) including voltage and current; a motor (45) with an encoder (65) mounted thereon to register motor revolutions, which motor is configured to drive translation movement of the plunger via a threaded shaft (50) causing a change in volume in the chamber and liquid to be alternatively received and discharged from the chamber; a trigger (15); and a processor (70) with a processor memory containing stored data which processor is in communication with the power source, the motor and the trigger;

using the processor to control the energy to the motor by creating a plurality of pulses of power and an off time between such pulses to said motor;

using the processor to count the number of motor revolutions from the encoder during an injection operation and compare the counted number of revolutions to a target number of revolutions stored in a processor memory; and

using the processor to calculate a difference between the target number of motor revolutions and the counted number of motor revolutions, and look up gain in stored data to be applied to a parameter selected from off time, pulse time, voltage and current wherein the stored data comprises gain values correlating to calculated differences, and the processor varies the parameter by applying the gain to such parameter and vary the energy to the motor and to control the pressure of the liquid discharged from the outlet during an injection operation.

2. The method of claim 1, wherein the pressure of the liquid discharged from the outlet during an injection operation is controlled to maintain a predetermined injection pressure associated with a target tree or palm plant.

3. The method of claim 1, wherein the processor calculates a difference between the target number of motor revolutions and the counted number of motor revolutions, and looks up gain to be applied to off time in stored data wherein the stored data comprises gain values correlating to calculated differences, and wherein the processor varies the energy to the motor by applying the gain to the off time.