Acetic acid assessment

There are acetic acid (vinegar) based alternatives to Glyphosate which are currently more expensive. Herbicidal vinegar is stronger than household vinegar: the acetic acid concentration for herbicidal use is 15-20%, compared to 5% in household. Acetic acid is itself a chemical and my understanding is that it is actually more toxic than Glyphosate and needs to be applied at a higher dose rate to be effective. It is also less effective in controlling weeds, as unlike Glyphosate which is systemic and travels through the plant to the root system, acetic acid only acts as a contact form of control so will only break down/ burn the foliage that it comes into contact with.

There has been much less research on weed control with acetic acid-based products than Glyphosate and obviously less real world application. Examples of the pro's and cons on acetic acid based products are listed below:

PRO's

• Excellent control when contacting very small annual broadleaf weeds

• Rapid kill rate (Over 90% of treated plants should die within 24 hours)

• Acetic acid products break down quickly in the environment

• Most useful for managing weeds in gravel and on patios or footpaths

• These contact herbicides fit into an integrated pest management program; although weeds require monitoring for best control timing

• Non selective, but mainly kill broadleaf weeds. Burns back grasses temporarily

CONS:

• Weeds must be small (timing is important – within 2 weeks of germination)

• Roots are not killed; repeat applications are needed for larger weeds and perennials

• Good spray coverage is essential. (higher dose rate)

• Sharp vinegar odour lingers and is unpleasant

• Spray equipment must be thoroughly cleaned after application, particularly metal equipment

• Acetic acid is highly corrosive and tends to breakdown/corrode infrastructure such as brickwork, wood, metals

• Severe eye irritation, burns, and possible irreversible damage potential. Vinegars with acetic acid concentrations of 11% or greater can burn the skin and cause severe eye injury, including blindness

• Severe skin irritation and possible allergic sensitization. Acetic Acid can aggravate respiratory disorder