



WEED SOLUT-ION® AS ADJUVANT TO INCREASE HERBICIDE EFFICIENCY IN WEEDING

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WHAT IS WEED Solut-ion® ?

- + A novel herbicide *adjuvant* effectively *boosts* herbicide efficacy at lower dosage
- + *Half* rate of herbicide mixture produce *same* efficacy as recommended rate

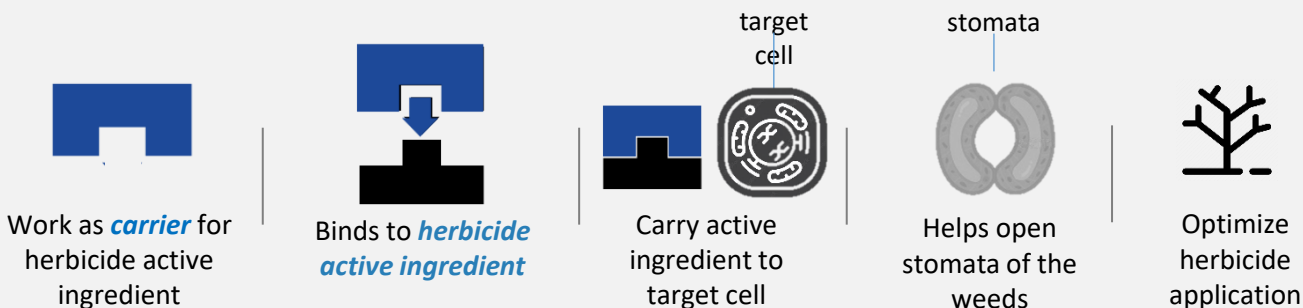


— Readily BIO-degradable
— LD50 > 15000 mg/kg
— LC50 : 592,53 ppm

HOW DOES

WEED Solut-ion®

WORK ?



BENEFITS OF WEED Solut-ion®

Increase herbicide efficacy

Reduce herbicide cost up to 10-20%

Environmentally friendly and readily biodegradable

Accorded with MSPO/RSPO/ FSC regulation to reduce herbicide amount & Eco-friendly

Safe to users (less toxic chemical as ingredient)

Compatible with most of the herbicide active ingredients (a.i)

COST EFFICIENCY OF WEED Solut-ion®

Active ingredient	Cost efficiency
GWC Mature + Glyphosate + Metsulfuron methyl + WEED Solut-ion®	▶ 14%
GWC Immature + Glufosinate ammonium + WEED Solut-ion®	▶ 7%
Selective broadleaf + Triclopyr + WEED Solut-ion®	▶ 19%

*GWC: General Weed Control



Pre

Post

1.65 L / ha G.A
+
1.65 L / ha
Weed
Solut-ion®
GWC Immature

**LCC
encroachment**



**6
weeks
after
treatment**

0.45L / ha
GLY + 22.5 g/
ha MSM
+ 0.45 L / ha
Weed
Solut-ion®

**Asystasia
gangetica**



**12
weeks
after
treatment**

GWC Mature

**Ageratum
conyzoides**



0.45 L / ha
TCP + 0.45
L / ha Weed
Solut-ion®
**Selective
Broadleaf**

**Clidemia
hirta**



** G.A = Glufosinate ammonium, GLY = Glyphosate, MSM = Metsulfuron methyl, TCP=Tricolpyr

- + Weed Solut-ion® is effectively to eradicate weeds as following:
 - + 50% reduction of herbicide recommendation rate in immature oil palm area
 - + 70% reduction of herbicide recommendation rate in mature oil palm area
- + In cost comparison, addition of Weed Solut-ion® contributes to 7-19% saving of total weeding cost per year in oil palm production.
- + General weed control (GWC) duration is longer compared to control (non-adjuvant)
 - + Up to 6 weeks in immature palm (< 2 years) circle
 - + 12 weeks in mature palm (> 2 years) circle & selective spraying of broadleaves.
- + No phytotoxic symptoms observed on oil palm i.e., scorching, twisting, bending of fronds and shoot growth defects.
- + The active compound in Weed Solut-ion® acts as a reductant, a compatible agent (synergist), an activator ingredient (effective carrier), a buffer & conditioning agent (pH optimum) to herbicides.

WEED SOLUT-ION® SEBAGAI “ADJUVANT” UNTUK MENINGKATKAN KEBERKESANAN RACUN RUMPAI

FGV

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APA ITU WEED Solut-ion®?

- + Satu *adjuvant baharu* yang digunakan untuk *meningkatkan* keberkesanan racun rumpai
- + *Separuh* kadar campuran racun rumpai menghasilkan keberkesanan yang *sama* seperti kadar yang disyorkan



— Readily BIO-degradable
— LD50 > 15000 mg/kg
— LC50 : 592,53 ppm

BAGAIMANA

WEED Solut-ion®

BERFUNGSI?



Berfungsi sebagai *pembawa* bahan aktif racun rumpai



Mengikat *bahan aktif* *racun rumpai*



Sel sasaran

Membawa bahan aktif ke sel sasaran



stomata

Membantu membuka stomata rumpai



Mengoptimumkan penggunaan racun rumpai

KEBAIKAN WEED Solut-ion®



Meningkatkan keberkesanan racun rumpai



Kurangkan kos racun rumpai sehingga 10-20%



Mesra alam dan mudah terbiodegradasi



Diperuntukkan dengan MSPO/RSPO/ FSC untuk mengurangkan jumlah racun rumpai & mesra alam sekitar



Selamat kepada pengguna (kurang bahan kimia toksik sebagai bahan)



Serasi dengan kebanyakan bahan aktif racun rumpai (a.i)



KECEKAPAN KOS WEED Solut-ion®

Bahan aktif	Kecekapan kos
GWC Matang + Glyphosate + Metsulfuron methyl + Weed Solut-ion®	▶ 14%
GWC Pra matang + Glufosinate ammonium + Weed Solut-ion®	▶ 7%
Selektif Berdaun lebar + Triclopyr + Weed Solut-ion®	▶ 19%

*Kawalan rumpai am (GWC)



Sebelum

Selepas

1.65 L / ha G.A
+
1.65 L / ha
Weed
Solut-ion®
**GWC Pra
matang**

LCC



6
Minggu
selepas
rawatan

***Asystasia
gangetica***

0.45L / ha GLY
+ 22.5 g/ ha
MSM
+ 0.45 L / ha
Weed
Solut-ion®



GWC Matang

***Ageratum
conyzoides***



12
Minggu
selepas
rawatan

0.45 L/ ha
TCP + 0.45 L/
ha Weed
Solut-ion®
**Selektif
Berdaun
lebar**

Clidemia hirta



** G.A = Glufosinate ammonium, GLY = Glyphosate, MSM = Metsulfuron methyl, TCP=Tricolpyr

- + Weed Solut-ion® berkesan untuk membasmi rumpai seperti berikut:
 - + Pengurangan 50% dari kadar pengesyoran racun rumpai di kawasan kelapa sawit pra matang
 - + 70% dari kadar pengesyoran racun rumpai di kawasan kelapa sawit matang
- + Dari segi perbandingan kos, penggunaan Weed Solut-ion® memberikan 7-19% penjimatan daripada jumlah kos merumput setahun dalam pengeluaran kelapa sawit.
- + Tempoh kawalan rumpai am (GWC) adalah lebih lama sehingga 6 minggu dalam bulatan sawit pra matang (< 2thn), & 12 minggu dalam bulatan sawit matang (>2thn) & semburan selektif daun lebar.
- + Tiada simptom fitotoksik diperhatikan pada kelapa sawit iaitu lecur, berpintal, pelepah melentur dan kecacatan pertumbuhan pucuk.
- + Sebatian aktif dalam Weed Solut-ion® bertindak sebagai bahan pengurangan racun, agen serasi (sinergi), bahan pengaktif (pembawa berkesan), agen penampan & penstabil (pH optimum).