



*RICK ROEHM, HELENA AGRI ENTERPRISES
NOVEMBER 2019 PESTICIDES AND FAMILIES*



WHAT WE'RE
GONNA COVER
TODAY ARE
PRODUCTS THAT
ARE (MOSTLY)
LABELED FOR
RANGLEAND...



**SIMILAR HERBICIDES WORK BEST
ON WEEDS THAT ARE IN THE SAME FAMILY...**

GROUP 1 IS COMPRISED OF GRASS SELECTIVE (MOSTLY)
HERBICIDES...CARBOXYLASE INHIBITORS...



GROUP 2'S ARE ONE OF THE MOST IMPORTANT FAMILIES TO EVERYBODY HERE TODAY...

THESE ARE ALS INHIBITORS AND INCLUDE THE IMI'S AND SU'S



AND A FEW FRINGE COMPOUNDS...



Lambient™

THIS IS THE FIGWORT FAMILY...

COMMON MULLEIN
AND THE TOADFLAXS
ARE THE MOST
PROBLEMATIC...



THE MUSTARD FAMILY IS WHERE WE GET
WHITETOP, HOARY CRESS AND TUMBLE MUSTARD



THE PARSLEY FAMILY HAS POISON
HEMLOCK,
WILD CARROT AND PARSNIP



GROUP 3 HERBICIDES ARE THE DNA'S... THE ORANGE STUFF

THESE ARE MICROTUBULE ASSEMBLY
INHIBITORS...



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**THE PHENOXYLS LIKE 2, 4-D, DICAMBA AND
MCPA MAKE EVERYTHING BETTER...
AND PICK UP SUMMER ANNUALS REAL WELL**

HardBall



Freelexx

HERBICIDE

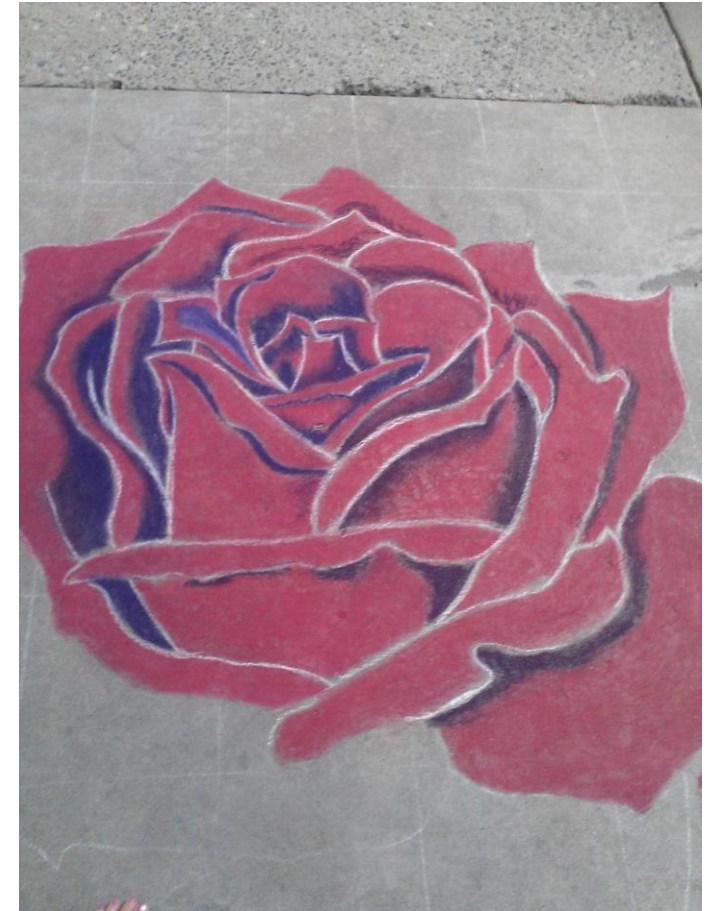
VISION

THE PHENOXY'S ALSO
LEND THEMSELVES TO
NEWER, BETTER
FORMULATIONS



CORTEVA[™]
agriscience

THE PYRADINES DO RANGELAND
WEEDS VERY WELL...



SOME OF THE BEST PRODUCTS COME BY COMBINING TWO AUXINS, OFTEN A PHENOXY AND PYRADINE...



OR AN SU AND A PYRADINE...



THESE ARE THE ASTERACEAE FAMILY WEEDS



ALL THE THISTLE, KNAPWEEDS AS WELL AS
HAWKWEED, SUNFLOWERS AND ASTERS



AS WELL AS ANY LEGUME TYPE WEED...CLOVERS, OXALIS
AND BLACK MEDIC

THE GOOSEFOOT FAMILY ENDOWS US WITH ALL KINDS OF RANGELAND WEEDS...



KOCHIA



RUSSIAN THISTLE



LAMBSQUARTERS



HALOGETON



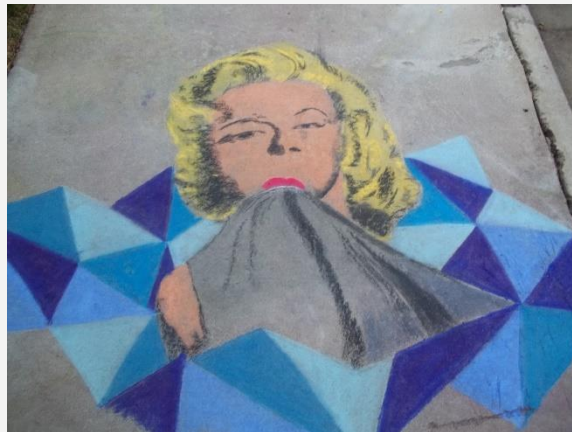
QUINCHLORAC IS ALSO AN AUXIN
HERBICIDE AND IS VERY ACTIVE ON,
AMONG OTHER THINGS, FIELD BINDWEED
AND LEAFY SPURGE

GROUPS 5, 6 AND 7 ARE PHOTOSYSTEM INHIBITORS THAT ACT ON THE SAME SITES BUT HAVE DIFFERENT BINDING BEHAVIORS....

ATRAZINE, SIMAZINE, BROMACIL...

DIURON AND SPIKE

ALL HAVE HIGH K_{oc} VALUES AND LOW SOLUBILITY



AS BAD A YEAR AS DICAMBA HAD, GLYPHOSATE HAD AN EVEN WORSE YEAR...



JUST LABEL

NEXT MAN UP?...GLUFOSINATE IS A GLUTAMINE SYNTHASE INHIBITOR...THE SOLE COMPOUND OF GROUP 10...



Finale[®]
150

HERBICIDE

- ☑ Can be used for preparing sports turf for line-marking.
- ☑ Effective control of field horsetail (*equisetum arvense*) and creeping thistle (*cirsium arvense*).

SINCE THERE ARE NO SIGNIFICANT FAMILIES IN GROUPS 11, 12 OR 13, LET'S MOVE TO GROUP 14, THE PROTOX INHIBITORS...



QuickSilver[®]
HERBICIDE



SureGuard[®]
HERBICIDE

Payload[®]
HERBICIDE



GROUP 17 IS THE ORGANIC ARSENICALS...DUNNO HOW THEY DO IT...



GROUP 20 IS THE NITRILES...CELL WALL SYNTHESIS INHIBITORS..

AND GROUP 22 ARE THE BIPYRIDILIUMS...



GROUP 26 IS SCYTHER, A CARBOXYLIC ACID OF WHICH THE MODE OF ACTION ISN'T COMPLETELY KNOWN...

THIS ALSO MIGHT BE AN OPTION FOR NON SELECTIVE APPLICATIONS NOT NAMED GLYPHOSATE...



AND GROUP 27...THESE ARE HPPD INHIBITORS...THEY TURN THE WEEDS WHITE AS THEY DIE...

Frequency[™]
herbicide

 **Tenacity**[®]
Herbicide



AND GROUP 29 BELONGS TO INDAZIFLAM...A CBI INHIBITOR



NO GRAZING YET BUT VERY ACTIVE AS A PRE EMERGENT ON MANY RANGELAND WEEDS...



IN THE WHAT'S NEW DEPARTMENT...



DURACOR IS A COMBINATION OF MILESTONE AND RINSKOR...A NEW SYNTHETIC AUXIN HERBICIDE FOR RANGE AND PASTURE...

BUT SHOULD BE ANOTHER WAY TO STAY AHEAD OF RESISTANT WEEDS

**SO, LET'S TAKE
QUESTIONS AND WRAP
IT UP.**

*THANKS AS ALWAYS,
RICK*

