

18-AUG-1997

RUP 356

Liquid Herbicide by Monsanto

AGRICULTURAL

CAUTION IRRITANT

REGISTRATION NO. 23326

PEST CONTROL PRODUCTS ACT

GUARANTEE:

Glyphosate, 356 grams per litre
present as isopropylamine salt.

READ THE LABEL BEFORE USING.

MONSANTO CANADA, INC.
Streetsville, P.O. Box 787
Mississauga, Ontario
L5M 2G4

Montreal Winnipeg Saskatoon Red Deer Vancouver

MADE IN CANADA

1996

CONTENTS

	Page(s)
1.0 PRODUCT DESCRIPTION	4
2.0 EMERGENCY NUMBERS	4
2.1 Regional Office Telephone Numbers	4
3.0 PRECAUTIONARY STATEMENTS	5
4.0 GENERAL INFORMATION	6

5.0 MIXING AND APPLICATION	7
5.1 Precautions	7
5.2 Equipment Information	8
6.0 WEEDS CONTROLLED	9
6.1 Annuals	10
6.2 Perennials	11
6.3 Woody Brush and Trees	11
CROPLAND USES	
7.0 ANNUAL WEED CONTROL	12
7.1 Annual Weed Control with RUP 356 Herbicide	13
7.2 Annual Weed Control with Tank Mixtures	14
7.3 Surfactant Information	15
7.4 Additional Important Information For Annual Weed Control	15
8.0 PERENNIAL WEED CONTROL	15
8.1 Perennial Weed Control With RUP 356 Herbicide	16
8.2 Special Notes For Perennial Weed Control:	
8.2.1 Quackgrass	18
8.2.2 Surfactant Information	18
8.2.3 Canada Thistle	19
8.2.4 Toadflax	19
8.2.5 All Perennial Weeds	20
9.0 CROPLAND SITUATIONS	21
9.1 Prior to Planting - All Crops	21
9.2 Post harvest Stubble Treatment	21
9.3 Spot treatment	21
9.3.1 Grazing Restrictions	22
9.4 Summerfallow Treatment	22
9.5 Minimum and Zero Tillage Applications	22
9.5.1 RUP 356 Herbicide plus Pardner (R)	22
9.5.2 RUP 356 Herbicide plus Pursuit (R)	22
9.6 Forage Legumes and Grasses	23
9.7 Pasture Renovation	23
9.8 Forage Seed Production	23
9.9 Preharvest Treatment	24
9.9.1 Timing of Preharvest Applications	25
9.10 Tree Plantings	26
9.11 Tree, Vine and Berry Crops	26
9.12 Selective Equipment	30

1.0 PRODUCT DESCRIPTION

Water soluble herbicide for non-selective weed control in CROPLAND SYSTEMS.

CROPLAND USES INCLUDE:

In cropping systems before planting of all crops; in minimum tillage systems; preharvest applications in wheat, barley, canola (rapeseed), flax, peas, lentils, dry beans and soybeans; in pasture renovation; in forage legume and grass establishments; in tree crops including apple, pear, cherry, plum, peach, apricot, filbert, hazelnut, walnut, chestnut; in grapes, cranberries, blueberries and strawberry; in sugar beets; in tree plantings; and grasses for seed production.

No licence implied or granted under any non-Canada patent. Not for relabelling or repackaging.

(C) MONSANTO COMPANY 1996

2.0 In case of an emergency involving this product, Call Monsanto collect, day or night:

Accident/Spills	(514) 366-5588
Medical Emergency	(314) 694-4000
or CANUTEC	(613) 996-6666

Read NOTICE before buying or using. If notice terms are not acceptable, return at once unopened.

2.1 For additional information on this or other Monsanto agricultural products, call the local Monsanto office:

Alberta/BC.....1-800-688-5444
Saskatchewan.....1-800-667-4944
Manitoba/Eastern Canada.....1-800-361-2405

3.0 PRECAUTION

Keep out of reach of children.
MAY CAUSE EYE IRRITATION.
HARMFUL IF SWALLOWED.
Avoid contact with eyes or prolonged contact with skin.

FIRST AID: IF IN EYES, immediately flush with plenty of water

for at least 15 minutes. Call a physician or contact a poison control centre.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing. Wash clothing before reuse.

IF SWALLOWED, this product will cause gastro-intestinal tract irritation. Immediately dilute by swallowing water or milk. Call a physician or contact a poison control centre.

Environmental Hazards

Avoid direct applications to any body of water. Do not contaminate water by disposal of waste or cleaning of equipment.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fibreglass, plastic and plastic-lined steel containers. DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Storage and Disposal

Avoid contamination of seed, feed, and foodstuffs.

Soak up small amounts of spill with absorbent clays.

RETURNABLE CONTAINERS:

Return the emptied container with seals intact to Monsanto or the supplier.

OTHER CONTAINERS:

Rinse the emptied container thoroughly and add the rinsings to the spray mixture in the tank.

Follow provincial instructions for any required additional cleaning of the container prior to its disposal.

Make the empty container unsuitable for further use.

Dispose of the container in accordance with provincial requirements.

For information on the disposal of unused, unwanted product and the cleanup of spills contact the Provincial Regulatory Agency or the manufacturer.

NOTICE:

Seller's guarantee shall be limited to the terms set out on the label and subject thereto. The buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

NOTICE TO USER:

This control product is to be used only in accordance with the directions on this label. It is an offence under the Pest Control Products Act to use a control product under unsafe conditions.

4.0 GENERAL INFORMATION

Do not apply this product using aerial spray equipment.

RUP 356 herbicide, a water soluble liquid, mixes readily with water for application as a foliage spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field type sprayers after dilution and thorough mixing with water in accordance with the booklet instructions.

This herbicide moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur until 7 to 10 days. Extremely cool or cloudy weather at treatment time may slow down activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above ground growth and deterioration of underground plant parts.

Delay application until vegetation has emerged to the stages

described for control of such vegetation under the annual and perennial weed control sections of this booklet to provide adequate leaf surface to receive the spray. Unemerged plants arising from underground rhizomes or root stocks of perennials will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per hectare within the recommended range when weed growth is heavy or dense, or weeds are growing in an undisturbed (non-cultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

This product does not provide residual weed control. For subsequent residual weed control follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Do not apply if rainfall is forecast for the time of application.

Do not mix with any surfactant, pesticide, herbicide oils or any other material other than water unless specified in this booklet. For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

5.0 MIXING AND APPLICATION

5.1 PRECAUTIONS

ATTENTION: AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

AVOID DRIFT - EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURING DESIRABLE PLANTS AND CROPS. Do not

allow spray mist to drift since even minute quantities of spray can cause severe damage or destruction to nearby crops, plants or other areas on which treatment is not intended, or may cause other unintended consequences. Do not apply when winds are gusty or in excess of 8 km/h or when other conditions, including lesser wind velocities, will allow drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.

DO NOT USE IN GREENHOUSES

REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water. Do not contaminate water sources by disposal of wastes or cleaning of equipment.

NOTE: Use of this product in any manner not consistent with this booklet may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

5.2 MIXING AND APPLICATION EQUIPMENT INFORMATION

MIXING

For ground or industrial type sprayers, fill the spray tank with one-half the required amount of water. Add the proper amount of herbicide (see "Weed Control" sections of this booklet - 7, 8) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.

For use in knapsack sprayers, it is suggested that the proper amount of this herbicide be mixed with water in a larger container. Fill sprayer with the mixed solution.

APPLICATION EQUIPMENT

BOOM EQUIPMENT

For control of perennial weeds and woody brush and trees

listed on this booklet using conventional boom equipment

- Apply this product in 50 to 300 L of clean water per hectare as a broadcast spray using no more than 275 kPa pressure. See "Weed Control" sections of this booklet (7,8) for rates to control specific weeds.

For control of annual weeds listed on this booklet using conventional boom equipment - Apply this product in 50 to 100 L of clean water per hectare as a broadcast spray, except as otherwise stated on this label using no more than 275 kPa pressure. See **AWeed Control**® sections of this booklet (7,8) for rates to control specific weeds.

HAND HELD AND HIGH VOLUME EQUIPMENT

(use coarse sprays only)

For control of weeds and woody brush and trees listed in the AWeed Controlled® section of this label using knapsack sprayers or high volume spraying equipment utilizing handguns or other suitable nozzle arrangements - Unless otherwise specified, make a 1% solution of this product in water (1 litre of this product in 100 litres of water) and apply to foliage of vegetation to be controlled. For best results, use a 2% solution (2 litres of this product in 100 litres of water) on harder to control perennials such as field bindweed, hemp dog-bane, milkweed and Canada thistle.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff. Hand gun applications should be properly directed to avoid spraying desirable plants.

SELECTIVE EQUIPMENT

Selective equipment such as WIPER and ROLLER applicators can be used for weed control in soy and dry beans, orchards, vineyards, cranberries, strawberries and non-crop areas. For information regarding use of this product with selective equipment, refer to "**Selective Equipment**" section of this label (9.12).

AERIAL EQUIPMENT (NON-CROP LAND USE ONLY)

Aerial application can only be used for weed control in industrial rights-of-way. Refer to section 10.2.2 for more information.

6.0 WEEDS CONTROLLED

This product controls many annual and perennial grasses, broadleaf weeds, and woody brush and trees when applied as recommended and under conditions described. For information on how to control specific weeds including herbicide rate refer to the "**Annual Weed Control**" and "**Perennial Weed Control**" sections of this label (7.1, 8.1, respectively). The following is a partial list of weeds controlled:

6.1 ANNUAL WEEDS

Annual Grasses

Blue Grass (annual)

Poa annua

Crab Grass

Digitaria sanguinalis

Downy Brome

Bromus tectorum

Green Foxtail

Setaria viridis

Volunteer Barley

Hordeum spp.

Volunteer corn

Zea Mays

Volunteer Wheat

Triticum spp.

Wild Oats

Avena fatua

Annual Broadleaf Weeds

Flixweed

Descurania sophia

Kochia

Kochia scoparia

Lady's-Thumb

Polytonum persicaria

Lamb's-Quarters (common)

Chenopodium album

Narrow-leaved Vetch

Vicia angustifolia

Prickly Lettuce

Lactuca scariola

Ragweed (common)

Ambrosia artemisiifolia
Redroot Pigweed
Amaranthus retroflexus
Russian Thistle
Salsola pestifer
Shepherd's Purse
Capsella bursa-pastoris
Sowthistle (annual)
Sonchus oleraceus
Stinkweed
Thlaspi arvense
Wild Buckwheat
Polygonum convolvulus
Wild Mustard
Sinapsis arvensis

Other

Dodder
Cuscuta spp.

6.2/6.3 PERENNIAL WEEDS

Perennial Grasses/Sedges

Blue Grass (Canada)
Poa compressa
Blue Grass (Kentucky)
Poa pratensis
Brome Grass (smooth)
Bromus inermis
Cattail (common)
Typha latifolia
Foxtail Barley
Hordeum jubatum
Quackgrass
Agropyron repens
Yellow Nutsedge
Cyperus esculentus

Perennial Broadleaved Weeds

Cottontop
Eriophorum chamissionis
Curled Dock
Rumex crispus
Field Bindweed

Convolvulus arvensis
Hemp Dogbane
Apocynum cannabinum
Hoary Cress
Cardaria draba
Knotweed (Japanese)
Polygonum cuspidatum
Milkweed (common)
Asclepias syriaca
Poison Ivy
Rhus radicans
Sow Thistle (perennial)
Sonchus arvensis
Thistle (Canada)
Cirsium arvense
Toad Flax
Linaria vulgaris
Wormwood (Absinth)
Artemisia absinthium

WOODY BRUSH AND TREES

Alder
Alnus spp.
Birch
Betula spp.
Broadleaved meadowsweet
Spiraea latifolia
Canadian rhododendron
Rhododendron canadenses
Cedar
Thuja spp.
Cherry
Prunus spp.
Douglas Fir
Pseudotsuga spp.
Hemlock
Tsuga spp.
Maple
Acer spp.
Mountain-fly honeysuckle
Lornica villosa
Pine
Pinus spp.
Poplar
Populus spp.

Raspberry/Salmonberry
Rubus spp.
 Sheep laurel
Kalmia angustifolia
 Snowberry (Western)
Symphoricarpos occidentalis
 Sweet fern
Comptonia peregrina
 Willow
Salix spp.
 Withrod
Viburnum cassinoides

CROPLAND USES

ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION and MIXING and APPLICATION PRECAUTIONS (sections 3.0, 4.0 and 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

7.0 ANNUAL WEED CONTROL

The following tables provide rates and specific application instructions for control of the annual weeds listed.

7.1 ANNUAL WEED CONTROL WITH RUP 356 HERBICIDE

RATE L/HA	GROWTH STAGE	WEEDS CONTROLLED	COMMENTS (Apply in 50-100 L/ha water)
0.75	Weeds up to 8 cm in height	wild oats, green foxtail, volunteer barley, volunteer wheat volunteer canola (rapeseed), wild mustard, lady's- thumb, stinkweed	- for wild oats apply at 1-3 leaf stage - add 350 mL of a surfactant registered for use such as Agral (R) 90, Ag Surf (R), or Companion (TM) - for heavy wild oat infestations use 1.0 L/ha rate.
1.0	Weeds 8 cm to 15 cm in	all annual grasses listed above plus foxtail barley*	- add 350 mL of surfactant registered for use as listed

	height	(suppression only) all annual broad leaved weeds listed above plus flixweed** and kochia**	above. * apply before initiation of seed-head or senescence of the lower leaves ** suppression only. Refer to higher rates of this table or tank mix table (section 7.2) for control options.
2.25	Weeds 8 cm to 15 cm in height	all annual grasses listed above plus crab grass, downy brome and annual blue grass. All annual broadleaved weeds listed above plus common ragweed, flixweed, kochia, lamb=s-quarters, prickly lettuce, redroot pigweed, russian thistle, shepherd=s purse, annual sow thistle, wild buckwheat, and narrow-leaved vetch.	- for additional annual broadleaved weed control options, refer to tank mix table (section 7.2)
3.5	Weeds over 15 cm in height	all annual grasses and broadleaved weeds listed above	- for additional annual broadleaved weed control options refer to tank mix table (section 7.2)

Agral (R) is a registered trademark of Imperial Chemical Industries PLC, England.

Ag Surf (R) is a registered trademark of Interprovincial Co-operatives Ltd.

Companion (TM) is a trademark of Rohm and Haas Canada Inc.

NOTE: For spot treatment, 0.75 - 3.5 kg/ha is approximately equivalent to 8 - 35 mL/100 m², respectively.

7.2 ANNUAL WEED CONTROL WITH RUP 356 HERBICIDE TANK MIXTURES FOR SUMMERFALLOW & MINIMUM TILLAGE SYSTEMS

TANK MIXTURES	RATE L/HA	WEEDS CONTROLLED*	COMMENTS (Apply in 50-100 L/ha water; add 350 mL/ha of surfactant - see list in section 7.3)
RUP 356 + Banvel (R)	0.75 - 1.0 + 0.29	<p>Volunteer cereal, wild oats, green foxtail,</p> <p>volunteer canola (rapeseed), wild mustard, flixweed*, lamb=quarters, lady=thumb, stinkweed, kochia, russian thistle, cow cockle,</p> <p>redroot pigweed** wild buckwheat**</p>	<p>This tank mix is registered for summerfallow use only. Weeds should be less than 15 cm tall and actively growing for best results.</p> <p>Use higher rate if weeds are beyond 8 cm in height.</p> <p>* RUP 356 applied at 1.0 L/ha rate only.</p> <p>** Suppression only. See other tank mixtures for control options.</p>
RUP 356 + Pardner (R)	0.75 - 1.0 + 1.25	<p>Volunteer cereals, green foxtail, volunteer canola (rapeseed), wild mustard, lady=thumb, stinkweed, wild buckwheat*</p> <p>redroot pigweed**, kochia**, wild oats**</p>	<p>This tank mix is registered only for use in summerfallow, and prior to wheat, oats and barley in minimum tillage systems. Weeds should be less than 15 cm tall and actively growing for best results.</p> <p>Use higher rate if</p>

			<p>weeds are beyond 8 cm in height.</p> <p>* use RUP 356 at 1.0 L/ha rate only for wild buckwheat control.</p> <p>** 1.0 L rate, suppression only. See other tank mixtures for control options.</p>
<p>RUP + 2,4-D Amine#</p>	<p>0.75 - 1.0 + 1.2</p>	<p>Volunteer cereals, wild oats* and green foxtail* volunteer canola (rapeseed), wild mustard, flixweed, redroot pigweed, lady's thumb, stinkweed, kochia.</p> <p>Lamb's quarters**, russian thistle**</p>	<p>This tank mix is registered for summerfallow use only. Weeds should be less than 15 cm tall and actively growing for best results.</p> <p>Use higher rate if weeds are beyond 8 cm in height.</p> <p>* use RUP 356 at 1.0 L/ha rate only for wild oat and green foxtail control.</p> <p>** suppression only. See other tank mixtures for control options.</p>

* For foxtail barley suppression, refer to Annual Weed Control table (Section 7.1)

0.56 kg ai/ha of 2,4-D. Adjust rates accordingly for other 2,4-D formulations.

(R) Banvel is a registered trademark of Sandoz Ltd

(R) Pardner is a registered trademark of Rhone-Poulenc

7.3 NOTE:

Addition Of Surfactant - All RUP 356 herbicide tank mixtures for annual weed control require the addition of a non-ionic surfactant registered for use such as Agral 90, Ag Surf, and Companion. Surfactant should be added at a rate of 350 mL per hectare, in 50-100 L of clean water.

7.4 Additional Important Information for Annual weed Control

Allow at least 3 days after treatment before tillage

Annual weeds generally will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germination of weeds, in some situations.

For additional information and precautions, refer to the "General Information" and "Mixing and Application" sections of this label (4.0, 5.1 and 5.2, respectively).

8.0 PERENNIAL WEED CONTROL

ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION and MIXING and APPLICATION SECTIONS (3.0, 4.0 AND 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

When applied as recommended under the conditions described, this product will control the perennial weeds listed in the following table:

8.1 PERENNIAL WEED CONTROL WITH RUP 356 HERBICIDE

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE L/ha	WATER VOLUME L/ha	
Quackgrass (control, light to moderate infestations)	3 to 4 green leaves or more	2.5	50 - 300	Apply in clean water using flat fan nozzles. Allow 3 or more days after

				<p>treatment before tillage.</p> <p>Refer to AQuackgrass@ notes in section 8.2.1 for more information.</p> <p>For higher water volumes (ie 150-300 L/ha) an approved surfactant must be added at 0.5 litres per 100 litres of clean water (0.5% v/v). Refer to list in section 8.2.2. See also below.</p>
<p>Quackgrass (long term control, heavy infestations, high water volumes)</p>	<p>3 to 4 green leaves or more</p>	<p>2.5 - 7.0</p>	<p>50 - 300</p>	<p>Allow 3 or more days after treatment before tillage.</p> <p>Rates higher than 2.5 L/ha will provide more consistent, longer term control, especially with heavier infestations and/or higher water volumes (ie 150-300 L/ha)</p> <p>Refer to AQuackgrass@ notes in</p>

				section 8.2.1 for more information.
Canada Thistle	rosette stage (summerfallow)	2.5	50 - 100	Apply in clean water using flat fan nozzles. Allow 10 or more days after treatment before tillage. Refer to ACanada Thistle@ notes in section 8.2.3 for more information.
Canada Thistle	bud stage or beyond	4.75 - 7	100 - 300	Allow 5 or more days after treatment before tillage.
Field Bindweed	full bloom or beyond	7 - 12	100 - 300	Allow 7 or more days after treatment before tillage.
Common Milkweed*	bud to full bloom	12	100 - 300	Allow 7 or more days after treatment before tillage. Reduced control may occur after full bloom. Milkweed may not all be in the correct stage, therefore, repeat treatments may be required.
Toadflax	Vegetative	2.5	50 - 100	Apply in clean

	Stage (Summerfall ow)			water using flat fan nozzles. Allow 7 or more days after treatment before tillage. Refer to AToadflax@ notes in section 8.2.4 for more information.
Other Perennials (see section 6.2).	Early heading or early bud stage	7 - 12	100 - 300	Allow 7 or more days after application before tillage.

* NOTE: For spot treatment, mix 120 mL of product in 5L clean water per 100 m². (2.5 - 12 L/ha approximately equivalent to 125 - 120 mL/100 m², respectively).

8.2 SPECIAL NOTES FOR PERENNIAL WEED CONTROL

8.2.1 QUACKGRASS

For season-long control on fall tilled ground: Apply 2.5L/ha of this product in spring prior to seeding. Apply in 50 to 100 L/ha of clean water as described in the preceding table. Delay Application until the majority of quackgrass plants have 4-5 green leaves. This stage usually occurs 1 to 4 weeks later on fall tilled ground than on undisturbed ground. Reduced control may result on ground tilled deeper than 15 cm.

NOTE:

This treatment will provide season-long control of quackgrass on fall tilled ground. Reduced control will be experienced versus this product on non-fall tilled ground. Repeat treatments may be necessary.

Applications on forages should be followed by tillage 3 days or later and should be made when good growing conditions exist.

If a frost has occurred, wait several days to determine if the quackgrass has recovered. Quackgrass can be treated after a mild frost provided there are 3 to 4 green leaves actively growing at the time of application. Do not apply after the first damaging frost in the fall.

8.2.2 SURFACTANTS:

The following is a list of approved surfactants for use with RUP 356 herbicide for control of quackgrass:

Agral 90	Enhance (R)
Ag Surf	Frigate (R)
Companion	

Always refer to surfactant label for specific instructions regarding use of that product.

Enhance (R) is a registered trademark of Eli Lilly and Company. Dow-Elanco Canada is a registered user.

Frigate (R) is a registered trademark of Fermenta ASC Corp.

8.2.3 CANADA THISTLE

Control of Canada Thistle at the rosette stage: To ensure the proper timing of application the following steps must be followed:

1. Conduct summerfallow tillage as usual and perform the last tillage operation between July 15th and August 1.
2. Allow the thistles to regrow for a minimum of 5 weeks until they are a minimum of 15cm in diameter and in the rosette stage of growth.

NOTE: Canada thistle can be treated after a mild frost provided the leaves are still green and actively growing at the time of application. Do not apply after the first damaging frost in the fall.

RUP 356 plus Banvel Tank Mixtures

For control of Canada thistle (and perennial sow thistle) in summerfallow or in post-harvest stubble, apply 1.7 L/ha RUP 356 plus 1.25 L/ha Banvel in 100-200 L/ha of clean water. In addition, add 350 mL/ha of a non-ionic surfactant registered for use with this product, such as Agral 90, Ag Surf, or Companion.

For best results in summerfallow, cultivate in the spring and apply when the majority of thistles are 15 cm to 25 cm tall and before the bud stage. Cultivate 3 weeks after application.

In post harvest stubble apply this tank mixture to actively growing thistles at least 2 weeks prior to a killing frost.

NOTE:

Grow only cereals, canola (including rapeseed), soybeans, field corn, sweet corn, or white beans after application of this tank mixture.

If application is made after September 1st, or if soil moisture levels are extremely low after application, crop injury may occur in the spring following application.

8.2.4 TOADFLAX

Control of Toadflax in a Summerfallow Vegetative Stage

To ensure the proper timing of application, the following steps must be followed:

1. Conduct summerfallow tillage as usual and perform the last tillage operation between July 10-21.
2. Allow toadflax to regrow for a minimum of 4-5 weeks until they are minimum of 15 cm tall and at a lush green vegetative stage.

Note: Toadflax can be treated after a mild frost provided the leaves are still green and actively growing at the time of application. Do not apply after the first damaging frost.

8.2.5 ALL PERENNIAL WEEDS

Weed Stages: Weeds must be at the proper stage for effective control. Refer to "**Perennial Weed Control with RUP 356 Herbicide**" (8.1).

Nozzle Type: For best results with conventional boom equipment

apply this product with 50 to 300 L/ha of clean water using flat fan nozzles and no more pressure than 275 kPa. /

Rhizome Dormancy: Reduced control may result if rhizomes have become dormant. Dormancy may occur if soil fertility is low and/or the land has not been tilled for several years.

Mowing Effects: Mowing prior to application will reduce effectiveness unless weeds are allowed to regrow to the proper stage before application.

Tillage Effects: Fall or spring tillage prior to spring applications and tillage between harvesting and fall applications will reduce the effectiveness on perennial weeds. Follow-up tillage after application should be delayed 5-7 days for best results (see Weed Control Table for specific Tillage interval for each weed).

Rainfall Effects: Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Do not apply if rainfall is forecast for the time of application.

Regrowth from Germinating Seeds: This product only controls emerged plants. Repeat treatments or other weed control measures may be required to control weeds regenerating from seeds or other underground parts.

Frost Effects: Heavy frosts prior to application may reduce control. Do not apply after the first damaging frost in the fall.

9.0 CROPLAND SITUATIONS

ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION and MIXING and APPLICATION SECTIONS (3.0, 4.0 and 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

This product can be applied as a broadcast spray or spot treatment prior to planting all crops, post harvest to annual crops, preharvest in wheat, barley, canola (rapeseed), flax, lentils, peas and soybeans, and in summerfallow. It can also be applied as a directed spray in orchards, vineyards, blueberries and strawberry, and using selective equipment in soy and dry beans, orchards, vineyards, cranberries and strawberry (refer to specific sections below for more information). **For specific instructions on weed control in the following cropping**

situations, always refer to the Annual and Perennial Weed Control sections (7.0 and 8.0) for more information.

9.1 Prior to Planting - All Crops

This product may be applied prior to planting all crops for control of emerged weeds listed on this label. Ensure weeds are at the desired stage at the time of application. This product does not provide pre-emergent weed control and newly germinating weeds may be a problem in the crop. APPLY BEFORE SEEDING OR TRANSPLANTING.

9.2 Post Harvest Stubble Treatment

This product may be applied in the fall as a postharvest stubble treatment for control of perennial weeds such as quackgrass and Canada thistle. Allow weeds to regrow to the desired stage (20-25 cm tall for quackgrass and Canada thistle) before application and ensure they have a high proportion of green colouration. Straw should be removed or evenly spread to allow for proper regrowth and spray coverage. Heavy frosts prior to application may decrease control.

9.3 Spot Treatment (In-Crop)

This product can be applied as an in-crop spot treatment in barley, corn, oats, soybeans, wheat, strawberry, blueberry, forage grasses and legumes including seed production. Applications should be made using the same rates and at the same growth stages as listed in the weed control tables (7.1, 8.1) or use a 1% solution for annual weeds and quackgrass and a 2% solution for other perennial weeds (a 1% solution equals 1 litre RUP 356 herbicide, in 100 litres of spray solution). One or two per cent solutions should be applied to wet, but not run-off. Applications can be made using a boom sprayer, hose and handgun, or hand sprayer in accordance with instructions in the "Application Equipment" section (5.2).

9.3.1 Applications can be made up to heading of small grains, initial pod set on soy and dry beans, silking of corn and emergence of seed heads. The crop in the treated area will be killed. Take care to avoid drift for the same reason. DO NOT APPLY IF CROP GROWTH HAS ADVANCED BEYOND SEED SET. DO NOT GRAZE OR HARVEST TREATED AREAS IN FORAGES UNTIL TREATED PLANTS HAVE TURNED BROWN AND STARTED TO DETERIORATE.

9.4 Summerfallow Treatment

This product, or labelled tank mixtures, may be applied in summerfallow to control weeds listed on this label. Ensure weeds are at the desired growth stage and actively growing at application for best results. Reduced control may result if weeds are drought stressed. Weeds will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germinating weeds.

9.5 Minimum and Zero Tillage Cropping Systems (All field Crops, including cereals, oilseeds, pulses, forages and corn)

This product may be applied prior to seeding or after seeding, but before crop emergence for control of emerged weeds in minimum and zero tillage cropping systems for all field crops. Applications made too far in advance of seeding may allow weeds to emerge between application and crop emergence, as this product does not provide residual weed control.

MINIMUM AND ZERO TILLAGE TANK MIXTURES

9.5.1 RUP 356 Herbicide plus bromoxynil (Pardner) can be applied prior to seeding or after seeding, but before crop emergence in **wheat, barley and oats**. Refer to Annual Weed Control with RUP 356 Herbicide Tank Mixtures table for information (section 7.2).

9.5.2 RUP 356 Herbicide plus Pursuit (R) can be applied prior to, or after, seeding, but before crop emergence in soybeans. RUP 356 herbicide will control emerged weeds listed on this label when applied as directed (refer to Annual and Perennial Weed Control sections, 7.0 and 8.0). Pursuit will control weeds germinating from seed. Add the recommended rates of both products, following the instructions on the Pursuit herbicide label.

ALWAYS REFER TO THE PURSUIT LABEL FOR FURTHER INFORMATION ON WEEDS CONTROLLED, APPLICATION DIRECTIONS, AND USE PRECAUTIONS. ONLY SOYBEANS, FIELD CORN, SPRING BARLEY, SPRING WHEAT AND WINTER WHEAT MAY BE PLANTED THE SEASON FOLLOWING A PURSUIT APPLICATION. WINTER WHEAT MAY BE PLANTED THE SAME YEAR AS A PURSUIT APPLICATION TO SOYBEANS, BUT NOT EARLIER THAN 120 DAYS AFTER THE APPLICATION.

DO NOT APPLY AFTER CROP EMERGENCE

(R) Pursuit is a registered trademark of Cyanamid Canada Inc.

9.6 Forage Legumes and Grasses

This product may be applied for control of emerged weeds prior to emergence of forage legumes and grasses. If the forages are to be under-seeded with a cover crop, this product must be applied prior to planting the cover crop.

9.7 Pasture Renovation

Use this product to control or suppress existing vegetation for zero-tillage seeding of legumes into established sod for pasture renovation. Delay spraying until weed growth is at least 20 cm in height and a maximum number of seedlings or shoots have emerged. Application can be made immediately before, during or after seeding, but before crop emergence.

9.8 Forage seed Production

For spot treatment control of perennial weed problems such as quackgrass and Canada thistle in seed fields, apply as directed to vegetation that is at least 20 to 25 cm in height but before emergence of seed head. The crop in the treated areas will be killed. Take care to avoid drift outside target area for the same reason.

9.9.0 PRE-HARVEST CONTROL OF QUACKGRASS, CANADA THISTLE and MILKWEED SEASON-LONG CONTROL OF PERENNIAL SOW THISTLE, AND HARVEST MANAGEMENT

For control of quackgrass and Canada thistle and Common Milkweed, and season-long control of perennial sow thistle, RUP 356 can be applied prior to harvest of wheat, barley (including malting barley , canola (rapeseed), flax, lentils, peas, dry beans and soybeans. DO NOT apply to any crops, other than wheat or barley, if grown for seed production.

This treatment may also provide harvest management benefits, by drying down crop and weed vegetative growth, for example, where late flushes of annual weeds, green vegetative crop growth, or late tillering may interfere with harvest operations.

RUP 356 should be applied pre-harvest at 2.5 L/ha in 50 to 100 L/ha of clean water, by ground application only. Apply only when the crop has 30% or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. Consult the table "Guidelines for Timing of Preharvest Applications" for visual indicators of this stage in each crop. For the best weed control

results quackgrass should be actively growing and have at least 4 to 5 green leaves. Canada thistle and perennial sow thistle should be actively growing and at or beyond the bud stage for best results. Common milkweed should be at the bud to bloom stage and actively growing for best results. Applications for weed control (not for harvest management) must be made at the correct stage of both weed and crop growth.

Apply only during the period 7-14 days before harvest to ensure best weed control and to maximize harvest management benefits. Earlier application may reduce crop yield and/or quality, and may lead to excess Glyphosate residues in the crop.

Grain, grain fractions, and meal from treated crops may be fed to livestock. No other portions of treated crops should be fed to livestock.

Overspray or drift to important wildlife habitats such as bodies of water, wetlands (eg. sloughs), shelterbelts, woodlots and other cover on the edges of fields frequented by wildlife should be avoided. Leave a 15 metre buffer zone between the last spray swath and the edge of any of these habitats.

Do not expose or contaminate any body of water or non-target vegetation by direct application, spray drift, or when cleaning and rinsing spray equipment.

DO NOT APPLY BY AIRCRAFT.

9.9.1 GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS

CROP (S)	PERCENT GRAIN MOISTURE	VISUAL SYMPTOMS
WHEAT/BARLEY	Less than 30	Hard dough stage; a thumbnail impression remains on seed.
CANOLA	Less than 30	Pods are green to yellow; most seeds are yellow to brown.
FLAX	Less than 30	Majority (75%-80%) of pods are brown.

PEAS	Less than 30	Majority (75%-80%) of pods are brown.
LENTILS	Less than 30	Lowermost pods (bottom 15%) are brown and seeds rattle.
DRY BEANS	Less than 30	Stems are green to brown in colour; pods are mature (yellow to brown in colour); 80%-90% leaf drop (original leaves).
SOYBEANS	Less than 30	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80%-90% leaf drop.

9.10 Tree Plantings

Shelterbelts and Nursery Stock (Woody Ornamentals)

This product may be used to control listed annual or perennial weeds for site preparation prior to establishing plantations, or as a post directed spray in established plantations of the following species.

Deciduous

Ash - Fraxinus spp.
 Caragana - Caragan spp.
 Cherry - Prunus spp.
 Elm - Ulmus spp.
 Lilac - Syringa spp.
 Maple - Acer spp.
 Mountain Ash - Sorbus spp.
 Poplar - Populus spp.
 Russian Olive - Elaeagnus spp.
 Willow - Salix spp.

Coniferous

Fir - Abies spp.
 Juniper - Juniper spp.
 Pine - Pinus spp.
 Spruce - Picea spp.
 Yew - Taxus spp.

9.11 TREE, VINE and BERRY CROPS

This product is recommended for annual and perennial weed control in established vineyards or orchards, in blueberry, cranberry and strawberry, or for site preparation prior to transplanting tree and vine crops. Applications may be made with boom equipment, shielded sprayers, hand-held and high volume orchards guns, or with wiper applicator equipment (orchards, vineyards, cranberry and strawberry only). See the "Mixing and Application ,Equipment Information" section of this label (5.2) and the following table for specific information on the use of equipment.

Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual or pre-emergent weed control. For subsequent weed control, follow a program using residual herbicides or use repeated applications of this product. Do not apply more than 35 litres of this product per hectare per year.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, CANES OF BLUEBERRY BUSHES, OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

WEED CONTROL IN TREE, VINE and BERRY CROPS

Crop	Rate (L/ha)	Pre-Harv Interval (days)	Max. Appl. per Yr.	Weeds Controlled	Comments (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Apples, Apricot, Cherry, (Sweet/sour) Peaches,	2.25- 12	30	3	Annual and perenn ial weeds	

Pears, Plums					
Apples, Grapes	Tank Mix 2.25- 12 + Simazi ne 2.0- 4.5 kg ai/ha	-	1	Annual and perenn ial weeds	Will provide season-long pre-emergent control. Do not apply to coarse, sandy or gravelly soil. Use according to the more restrictive label direction for each product in the mix. DO NOT apply to orchards or vineyards that have been established less than 1 or 3 years, respectively. Simazine rate is equivalent to 2.25-5.0 kg/ha Princep (R) Nine-T (TM), or 4.0- 9.0 kg/ha Simadex (TM).
Grapes	2.25- 12	14	3	Annual and perenn ial weeds	Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape. Suckering should be conducted

					within 2 weeks prior to application. Do not apply to vines which have been established less than 3 years.
Highbush (cultivated) blueberry	2.8-5.6	30	1	Quackgrass	Use as a directed spray, with no more than 275 kPa pressure
Lowbush blueberry	1-2% solution (spot application)	Apply in non-bearing year only	1	Woody brush (section 6.3)	Apply as a directed spray in mid-summer of the vegetative (non-bearing) year. See section 9.3 for instructions on spot treatments.
Filberts Hazelnut (established plantations)	2.25-3.5	14	-	Annual weeds	Use as a directed spray, with no more than 275 kPa pressure.
Walnut, Chestnut, Japanese heartnut	2.25-12	-	2	Annual and perennial weeds	Apply late spring and fall, post-harvest but prior to a killing frost. Apply in 200-300 L water as a directed spray, using no more than 275 kPa pressure. Apply

					alternatively as a 2% wiper solution (see Wiper Applications, section 9.12)
Cranberry	20% Solution (1L RUP 356 + 4L water)	50	1	Cotton top	Apply using wick or wiper applicators (section 9.12). Apply after fruit set.
Strawberry	1-2% solution (spot application) 33% solution (wiper application)	30	1	Emerged perennial weeds	Apply when weeds are at a susceptible growth stage (see sections 8.1, 2). See section 9.3 for instructions on spot treatments. See section 9.12 for instructions on wiper applications.
Sugar beets	1-2% solution (spot application)	Treated crop MUST NOT be harvested	1	Dodder species	Apply when dodder is vigorously growing but before flowering. See section 9.3 for instructions on spot treatments.

(R) Princep is a registered trademark of Ciba-Geigy Canada Ltd.

(TM) Nine-T is a trademark of Ciba-Geigy Canada Ltd.

(TM) Simadex is a trademark of NOR-AM Ltd.

9.12 SELECTIVE EQUIPMENT

WIPER APPLICATORS

This product may be applied with a wiper applicator, after dilution and thorough mixing with water, to listed weeds in soy and dry beans, grapes, orchards, cranberries and strawberry. Applications must be made before initial pod set in a soy and dry beans. (It may also be used in any tree planting specified on this label. See sections 9.10).

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution. Wiper applicators include either roller or wick devices which physically wipe appropriate concentrations or amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Performance may be improved by reducing speed in areas of heavy weed infestations to insure adequate wiper saturation. Best results may be obtained if 2 applications are made in opposite directions.

AVOID CONTACT WITH DESIRABLE VEGETATION. Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that wiper contact point is at least 5 cm above the desirable vegetation. Droplets or foam of the herbicide solution settling on desirable vegetation may result in discolouration, stunting or destruction.

Applications should be made when the weeds are a minimum of 15 cm above the desirable vegetation. Best results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. See the Weed Control tables in this label (sections 7.1 and 8.1) for recommended stage of growth for specific weeds.

NOTES

- . Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.
- . Adjust height of applicator to insure proper contact with

weeds.

- . Keep wiping surfaces clean.
- . Maintain recommended roller RPM on roller applicators while in use.
- . Keep wiper material at proper degree of saturation with herbicide solution.
- . DO NOT use wiper equipment when weeds are wet.
- . DO NOT operate equipment at ground speed below 4 and greater than 10 km/h. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to insure good coverage of weeds.
- . Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying on upper end of the wiper applicator.
- . Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.
- . Care must be taken with all types of wipers to insure that the absorbent material does not become over-saturated, causing the herbicide to drip onto desirable vegetation.
- . Mix only the amount of solution to be used during a one day period, as reduced activity may result from use of leftover solutions. With all equipment, drain and clean wiper parts immediately after using this product, by thoroughly flushing with water.

For Roller Applicators - Mix 0.5 to 1.0 L of this product in 10 L water to prepare a 5 to 10% solution. Apply this solution to weeds listed below.

Roller speed should be maintained at 50 to 150 rpm.

For Wick or other Wiper Applicators - Mix 1 litre of this product in 2 litres of water to prepare a 33% solution. Apply this solution to weeds listed below.

When applied as recommended under the conditions described for

"Wiper Applicators" this product CONTROLS or SUPPRESSES the following weeds:

CONTROL

SUPPRESSION

Annual grasses:

Perennial weeds:

Green Foxtail
Volunteer barley
Volunteer Corn
Wild Oats

Canada thistle
Cottontop
Milkweed
Quackgrass

Annual broadleaves:

Lamb's quarters

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