

53883-166

03/03/2005

1/25



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (H7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:
53883-166

Date of Issuance:
MAR -3 2005

NOTICE OF PESTICIDE:
 Registration
 Reregistration

Term of Issuance:
Conditional

Name of Pesticide Product:
MM 60 DF

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Control Solutions, Inc
2739 Pasadena Blvd.
Pasadena, TX 77502

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:

1. Submit/cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the labeling changes listed below before you release the product for shipment.
 - a. Add the phrase "EPA Registration No. 53883-166."
 - b. Revise the second sentence of the Environmental Hazards section to read "Do not contaminate water when **cleaning equipment** or disposing of equipment washwaters."
3. Submit two (2) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of labeling is enclosed for your records.

Signature of Approving Official:

Date:

3-3-05

2/05

MM 60 DF

Controls Weeds in: Rangeland, Pastures, Wheat, Barley, Fallow, and other listed sites!

Two ounces treats up to 20 acres.

See inside card for measuring device instructions. [optional statement]

Active Ingredient:

Metsulfuron Methyl

Methyl 2-[[[(4-Methoxy-6-Methyl-1,3,5-Triazin-2-YL)Amino]-
Carbonyl]Amino]Sulfonyl]Benzoate.

60%

Inert Ingredients:

40%

Total:

100%

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

MAR - 3 2005

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
53883-100**

Net Contents: _____

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the Poison Control Center 800-222-1222.

IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.
- Chemical resistant (category A) gloves such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

User should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely affected from drift and runoff.

Important Information

Pesticide Handling

- Calibrate sprayers with clean water only. Do not calibrate near wells.
- Check spray equipment periodically.
- Accurately measure all materials.
- Mix only enough product for the day's application.
- Do not overfill spray tank.
- Do not discharge excess material on the soil at a single spot in the field or mixing/loading station.
- Apply excess solution at labeled rates/uses.
- Do not store pesticides near well sites.
- When triple rinsing the pesticide container, add the rinsate to the spray mix.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation

4/25

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Shoes plus socks.
- Chemical resistant (category A) gloves such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected person out of treated areas until sprays have dried.

Weed control in pastures and rangeland is not within the scope of the Worker Protection Standard.

MM 60 DF should be used only in accordance with recommendations on this label or in separate published MM 60 DF recommendations.

Control Solutions Inc. will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Control Solutions, Inc.

Do not apply this product through any type of irrigation system.

GENERAL INFORMATION

MM 60 DF is recommended for use on land primarily dedicated to the production of wheat, barley, fallow, pasture, and rangeland. It is also recommended for use on irrigated or dry land grain sorghum in Colorado, Kansas, Nebraska, Oklahoma, and Texas (north of Interstate 20).

MM 60 DF can be used in most states. Check with your state before use. MM 60 DF is not registered for use in Alamosa, Conejos, Costilla, RioGrande, and Saquache counties of Colorado.

MM 60 DF controls weeds in grain sorghum, wheat (including durum), barley, pasture, rangeland grasses, and fallow. MM 60 DF is mixed in water or can be pre-slurried in water and added to liquid nitrogen carrier solutions and applied as a broadcast spray. A surfactant should be used in the spray mix unless otherwise specified on this label.

MM 60 DF is noncorrosive, nonflammable, nonvolatile, and does not freeze.

5/25

MM 60 DF controls weeds by postemergence activity. For best results, apply MM 60 DF to young, actively growing weeds. The use rate depends upon the weed spectrum and size of weeds at application. The degree and duration of control may depend on the following factors:

- Type and number of weeds.
- Weed size.
- Environmental conditions during and after treatment.

Environmental Conditions and Biological Activity

MM 60 DF is absorbed through the foliage of broadleaf weeds, rapidly inhibiting growth. Leaves of susceptible plants appear chlorotic from 1 to 3 weeks after application and the growing point subsequently dies.

MM 60 DF works best in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not be as satisfactory. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

MM 60 DF may cause injury to crops that are stressed from environmental conditions such as extreme temperatures or moisture, abnormal soil conditions, or cultural practices. In addition, some crop varieties may be sensitive to treatment with MM 60 DF under otherwise normal conditions. Treatment of such varieties may injure crops.

In warm, moist conditions, herbicidal activity is accelerated in weeds; in cold, dry condition, herbicidal activity is delayed. In addition, weeds hardened-off by drought stress are less susceptible to MM 60 DF.

Weed control may be reduced if rainfall or snowfall occurs soon after application.

APPLICATION INFORMATION

Use Rates

Wheat (including durum) and Barley – 1/10 oz. MM 60 DF per acre.

Grain Sorghum (Irrigated or dry land, in Colorado, Kansas, Nebraska, Oklahoma, and Texas [north of Interstate 20] only) – 1/20 oz. MM 60 DF per acre, plus ¼ lb. active ingredient 2,4-D amine per acre. Do not use surfactant or crop oil when applying to grain sorghum.

Pasture and Rangeland – 1/10 to 4/10 oz. MM 60 DF per acre as a broadcast treatment. For spot treatments, use up to 1 oz. per 100 gal. of water, not to exceed ¾ oz. of Metsulfuron Methyl 60 DF per acre.

Harvest Aid – 1/10 oz. MM 60 DF per acre in combination with 2,4-D or Roundup aids in dry down of many broadleaved weeds.

Fallow – 1/10 oz. MM 60 DF per acre.

Application Timing – Wheat and Barley

Dryland Wheat and Barley

(Except Durum or Wampum Variety)

Apply after the crop is in the 2-leaf stage but before boot.

Durum and Wampum Variety Spring Wheat – Apply after the crop is tillering but before boot. For durum and wampum varieties, use in combination with 2,4-D.

6/25

Irrigated Wheat and Barley – Apply after the crop begins tillering but before boot. For best results, delay post-treatment irrigation for at least 3 days after treatment and do not exceed 1 inch of water.

Wheat and Barley – Harvest Aid

Apply after reaching the hard dough stage, but no later than 10 days before harvest. See section on **Harvest Aid Tank Mixtures**.

Fallow – MM 60 DF may be used as a fallow treatment in the spring or fall after weeds have emerged and are actively growing.

Do not apply during boot or early heading, as crop injury may result.

Application Timing – Grain Sorghum

Crop Growth Stage: Apply with 2,4-D amine when grain sorghum is from 3 to 15 inches tall. If grain sorghum is taller than 10 inches to the top of the canopy, apply with drop nozzles and keep spray off of foliage. Apply before boot stage only. Read and follow all other use instructions, warnings and precautions provided on companion herbicide labels.

Note: Sorghum varieties can vary in sensitivity to 2,4-D amine. Spray only those varieties that are known to be tolerant to 2,4-D amine. Contact the seed company or your local County Extension Service for additional information.

Weed Growth Stage: Apply with 2,4-D amine when all or a majority of the weeds have germinated and emerged. Spray when weeds are a maximum of 6 inches tall for best results. Review the **Weeds Controlled** section below for specific weeds controlled.

Grain Sorghum Precautions:

Temporary growth stunting and/or crop yellowing may occur soon after application, especially when crops are under stress conditions. Do not use Metsulfuron Methly 60 DF on grain sorghum that is grown for seed production or for syrup. Do not use on forage sorghum. Wait a minimum of 30 days before using for silage or forage. Do not include surfactant or crop oil when preparing tank mixes. Do not apply under cold, wet weather conditions or to grain sorghum that is under stress caused by weather, insects, or disease-crop injury may result. Do not apply to long season grain sorghum varieties. Do not apply to grain sorghum that is planted after July 1 – crop injury or delayed maturity may occur. Do not apply to grain sorghum more than once per year. MM 60 DF must be used in combination with 2,4-D on grain sorghum. If using in areas where 2,4-D is restricted, follow all applicable restrictions. Do not use this product on grain sorghum in areas where 2,4-D use is prohibited.

Application Timing – Pasture Grasses

MM 60 DF may be used on native and improved grasses such as bluestems, grama, bermudagrass, blue grass, orchardgrass, bromegrass, fescue and timothy, as follows:

Pasture Grass	Minimum time from grass establishment to application
Bermudagrass	2 months
Bluegrass, bromegrass, and orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

MM 60 DF may temporarily stunt fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions:

7/25

- Tank mix with 2,4-D.
- Use the lowest recommended rate for target weeds.
- Use surfactant at ½ to 1 pt. per 100 gal. of spray solution (1/16 to 1/8% v/v).
- Apply late in the spring or after the new growth is 5 to 6 inches tall, or in the fall.
- Do not use surfactant when liquid nitrogen is used as a carrier.

The first cutting yields may be reduced due to seedhead suppression resulting from treatment.

Timothy Precautions:

Timothy should be actively growing and at least 6" tall at application. Application under any other conditions may cause crop yellowing and/or stunting. To minimize these symptoms, take the following precautions:

- Tank mix with 2,4-D.
- Use the lowest recommended rate for target weeds.
- Use surfactant at ½ pt. per 100 gal. (1/16% v/v).
- Apply in the late summer or fall.
- Do not use surfactant when liquid nitrogen is used as a carrier.

Ryegrass Pastures (Italian or perennial): Do not apply MM 60 DF to ryegrass pasture as injury to or loss of the pasture may result.

Other Pastures: Varieties and species of pasture grasses differ in their tolerance to herbicides. When using MM 60 DF on a particular grass for the first time, limit use to one container. If no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf pasture species such as alfalfa and clover are highly sensitive to MM 60 DF and will be severely stunted or injured.

Weeds Controlled

In general, apply when weeds are less than 4" tall or in diameter and are actively growing. See specific directions for each weed type. Effectiveness may be reduced if rainfall occurs within 4 hours after application.

Grain Sorghum – 1/20 oz. per acre, plus ¼ lb. active ingredient 2,4-D amine per acre.

Pigweed species
Puncture vine
Velvetleaf

Cereals, Pasture, Rangeland and Fallow 1/10 oz. per acre

Blue/purple mustard*	Miners Lettuce
Bur buttercup (testiculate)	Pigweed (redroot, smooth, tumble)
Coast fiddleneck	Plains coreopsis
(tarweed)	Prickly lettuce*
Common chickweed	Russian thistle*
Common purslane	Shepherd's purse
Conical catchfly	Smallseed falseflax
Cowcockle	Smartweed (green, ladythumb, pale)
False chamomile	Snow speedwell
Field pennycress	Tansymustard*
(fanweed)	Treacle mustard
Filaree	(Bushy Wallflower)
Flixweed*	Tumble/Jim Hill mustard

Groundsel (Common)
Henbit
Kochia*
Lambquarters
(common, slimleaf)

Volunteer sunflower
Waterpod
Wild mustard
Mayweed chamomile

Additional Weeds in Pasture/Rangeland Only 1/10 to 2/10 oz. per acre

Bitter sneezeweed
Buttercup
Carolina geranium
Common broomweed
Common mullein
Curly dock

Dandelion
Marestail
Plantain
Wild garlic*
Woolly croton*

2/10 to 3/10 oz. per acre

Annual marshelder
Blackeyed-Susan
Buckbrush**
Burclover
Common yarrow
Dogfennel

Horsemint (beebalm)
Musk thistle*
Pensacola bahiagrass*
Purple scabious
Western snowberry**
Wild carrot

4/10 oz. per acre

Serecia lespedeza*

Weeds Suppressed**

**Cereals, Pasture, Rangeland and Fallow
1/10 oz. per acre**

Canada thistle*
Common sunflower*
Corn gromwell*

Knotweed (prostrate)*
Sowthistle (annual)*
Wild buckwheat*

Brush Suppressed
3/10 oz. per acre**

Blackberry
Dewberry

Multiflora rose*

Weeds/Brush Suppressed with Spot Application (Pasture/Rangeland only)

1 oz. per 100 gal. of water

Blackberry*
Canada thistle*

Dewberry*
Multiflora rosa*

*See the **Specific Weed Problems** section.

**Weed suppression is a reduction in weed population and/or vigor as visually compared to an untreated area. The degree of suppression varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

SPECIFIC WEED PROBLEMS

Note: Thorough spray coverage is very important.

Blue Mustard, Flixweed, and tansymustard: For best results, apply MM 60 DF in tank mixtures with 2,4-D or MCPA postemergence to mustards before bloom.

Canada Thistle and Sowthistle: Apply Metsulfuron Methyl DF 60 with a surfactant, 2,4-D or MCPA in the spring after the majority of thistles have emerged while still small (rosette stage to 6" elongating stems) and actively growing to reduce the ability of emerged thistles to compete with the crop.

For spot applications to Canada Thistle in pasture and rangeland, apply as foliar spray once plant is fully leafed. Apply to runoff and include a surfactant in the spray mix at 1 to 2 qts. per 100 gal. of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense stands, it may be necessary to spray from both sides to obtain adequate coverage.

Corn Gromwell and Prostrate Knotweed: Apply MM 60 DF with a surfactant when weeds are actively growing, are no larger than 2" tall, and when crop canopy will allow thorough coverage. Tank mixing with 2,4-D or MCPA can improve results.

Kochia, Russian thistle, Prickly lettuce: Resistant biotypes of these weeds are known to occur. For best results, use in a tank mix with Banvel/Banvel SGF and 2,4-D, or bromoxynil and 2,4-D (such as 3/4-1 pt. Buctril + 1/4 - 3/8 lb. active 2,4-D ester). Apply in the spring when kochia, Russian thistle, and prickly lettuce are less than 2" tall or 2" across and are actively growing. Refer to the **Tank Mixtures** section of this label for additional details.

Sunflower (common/volunteer): Apply with a surfactant, 2,4-D or MCPA after the majority of sunflowers have emerged, are 2" to 4" tall and are actively growing. Use spray volumes of at least 3 gal./ac by air or 5 gal./ac by ground (10 gal./ac by ground in pastures).

Wild Buckwheat: For best results, apply in a tank mix with MCPA when plants have no more than 3 true leaves (not counting the cotyledons). If plants are not actively growing, delay treatment until environmental conditions favor active weed growth.

Musk Thistle: Apply at 2/10 to 3/10 oz. per acre in the spring or early summer prior to flowering or in the fall after newly emerged plants have reached the rosette stage of growth. Fall applications should be made before the soil freezes.

Multiflora Rose: For best control, apply as a broadcast application when multiflora rose is less than 3" tall. Application should be made in the spring, soon after multiflora rose is fully leafed.

For spot applications in pasture and rangeland, apply as a foliar spray once plant is fully leafed. Apply to runoff. Include a surfactant in the spray mix at 1 to 2 qts. per 100 gal. of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense stands, it may be necessary to spray from both sides to obtain adequate coverage.

Blackberry and Dewberry: For spot applications in pasture and rangeland, apply as a foliar spray once plant is fully leafed. Apply to runoff and include a surfactant in the spray mix at 1 to 2 qts. per 100 gal. of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense stands, it may be necessary to spray from both sides to obtain adequate coverage.

Pensacola bahiagrass control in established Bermudagrass pasture: Apply at 3/10 oz. per acre plus surfactant after green-up in the spring but before bahiagrass seedhead formation. Apply when moisture is sufficient to enhance grass growth.

MM 60 DF effectively removes bahiagrass from bermudagrass pastures. In highly infested pastures, MM 60 DF clears the areas of useful forage until the bermudagrass has time to cover the area. Therefore, do not apply to an entire farm or ranch in one year. Treatments should be

10/25

made to different areas of a farm over a period of years. Pastures may be re-established more quickly by fertilization (particularly with nitrogen and potassium) and/or replanting.

Under heavy bahiagrass pressure, grazing pressure, or adverse weather conditions (heat and drought), some regrowth of weeds may occur.

Note: MM 60 DF should not be used for the control of common or Argentine bahiagrass.

MM 60 DF should not be applied in liquid fertilizer solutions for Pensacola bahiagrass control, as poor control and/or regrowth may occur.

Serecia lespediza: Apply at 4/10 oz. per acre with a surfactant at 1 to 2 qts per 100 gal. of total spray solution. For best results, make applications to serecia lespedeza beginning at flower bud initiation through the full bloom stage of growth.

Note: Do not use if drought conditions exist at intended time of applications.

Wild Garlic: Apply 1/10 to 2/10 oz. per acre in early spring when wild garlic is less than 12" tall with 2" to 4" of new growth.

Woolly Croton: Apply 1/10 to 2/10 oz. per acre in late spring or early summer at preemergence through 2 true leaf stage.

Surfactants

Unless otherwise specified, add a recommended nonionic surfactant having at least 80% active ingredient at 1 to 2 qts. per 100 gal. of spray solution (0.25 to 0.5% v/v).

Surfactant Rate Exceptions: (1) On all spring wheat and spring or winter barley use 1/2 to 1 qt. per 100 gals; (2) on Fescue pastures use 1/4 to 1/2 qt. per 100 gals.; (3) on Timothy pastures use 1/4 qt. per 100 gals.

Consult your agricultural dealer, applicator, or extension agent for a listing of approved surfactants.

Antifoaming agent may be used if needed.

Do not use low rates of liquid fertilizer as a substitute for surfactant.

Ground Application

For optimum spray coverage, use flat-fan or low volume flood nozzles.

For flood nozzles on 30" spacing, use at least 10 gallons spray solution per acre (GPA), nozzles no larger than TK10 (or equivalent), and at least 30 pounds per square inch (psi). For 40" nozzle spacing, use at least 13 GPA; for 60" spacing, use at least 20 GPA. Overlap nozzles 100% for all spacings.

With Raindrop¹ RA nozzles use at least 30 GPA and ensure that nozzle spray patterns overlap 100%.

For flat-fan nozzles, use at least 3 GPA for applications to wheat or barley. Use at least 10 GPA for applications to pasture or rangeland. For grain sorghum, use 10-30 GPA and apply uniformly at 20-40 PSI with a properly calibrated low pressure boom sprayer using flat-fan nozzles. If applying to irrigated sorghum, delay first post-treatment irrigation for a minimum of 3 days after treatment. For the first post-treatment irrigation, do not exceed 1". Cultivate prior to treatment to cover exposed brace roots of grain sorghum. This will minimize injury from 2,4-D amine.

11/25

Use 50-mesh screens or larger.

Aerial application

Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.

Wheat, Barley and Fallow – use 1 to 5 GPA. Use at least 3 GPA in Idaho, Oregon, or Utah.

Grain Sorghum – apply at the rate of 2-5 GPA. If applying to irrigated sorghum, delay first post-treatment irrigation for a minimum of 3 days after treatment. For the first post-treatment irrigation, do not exceed 1". Cultivate prior to treatment to cover exposed brace roots of grain sorghum. This will minimize injury from 2,4-D amine.

Pasture and Rangeland – use 2 to 5 GPA

When applying MM 60 DF by air in areas adjacent to sensitive crops, use solid stream nozzles oriented straight back. Adjust the swath to avoid spray drift damage to sensitive crops downwind and/or use ground equipment to treat the border edge of fields.

See the **Spray Drift Management** section of this label.

Product Measurement

Measure precisely using scales calibrated in ounces.

TANK MIXTURES

MM 60 DF may be tank mixed with other suitable registered herbicides to control weeds listed under **Weeds Suppressed**, weeds resistant to MM 60 DF, or weeds not listed under **Weeds Controlled**. Read and follow all manufacturer's label recommendations for the companion herbicide. If those recommendations conflict with this label, do not tank mix with MM 60 DF.

**MM 60 DF Tank Mixtures in Cereals (Wheat and Barley)
With 2,4-D (amine or ester) or MCPA (amine or ester)**

Tank mix with 2,4-D or MCPA (ester formulations provide best results) herbicides after weeds have emerged. For best results, use 1/10 oz. of MM 60 DF per acre; add 2,4-D or MCPA herbicides to the tank at ¼ to ½ lb. active ingredient. Surfactant may be added to the mixture at ½ to 1 qt. per 100 gal. of spray solution; however, adding surfactant may increase the potential for crop injury.

Apply with MCPA after the 3 to 5 leaf stage but before boot (with Durum and Wampum varieties, do not apply before tillering). Apply with 2,4-D after tillering (refer to appropriate 2,4-D manufacturer's label), but before boot.

With Banvel³/Banvel SGF

For best results, apply MM 60 DF at 1/10 oz. per acre; add 1/16 to 1/8 lb. active ingredient "Banvel"/"Banvel" SGF. Surfactant may be added to the mixture at ½ to 1 qt. per 100 gal. of spray solution; however, adding surfactant may increase the potential for crop injury. Also refer to "Banvel"/"Banvel" SGF labels for application timing and restrictions.

12/25

With 2,4-D (amine or ester) and "Banvel"

Apply in a 3-way tank mix with formulations of Banvel and 2,4-D. Observe all applicable directions, restrictions and precautions on labels of all products used.

Use 1/10 oz. of MM 60 DF + 2-3 oz. Banvel (4-6 oz. Banvel SGF) + 4-6 oz. active 2,4-D ester or amine per acre. Use higher rates when weed infestation is heavy. Add 1-2 pts. of surfactant to the 3-way mixture if needed. Surfactant may not be needed with the higher phenoxy rates and ester phenoxy formulations. Consult the specific 2,4-D or Banvel label, or local recommendations for more information.

Apply this 3-way combination to winter wheat after the crop is tillering and prior to jointing (first node). In Spring wheat (including Durum wheat) apply after the crop is tillering and before it exceeds the 5-leaf stage.

Do not apply this 3-way mixture at high rates more than once a year or more than twice per year at the low rates.

With bromoxynil (such as BUCTRIL⁵, BRONATE)

Apply with bromoxynil containing herbicides registered for use on wheat, barley, or fallow. For best results, add bromoxynil containing herbicides to the tank at 3 to 6 oz. active ingredient per acre (such as Bronate or Buctril at $\frac{3}{4}$ - 1 $\frac{1}{2}$ pts. per acre).

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures. Follow the most restrictive labeling.

With grass control products

Tank mixtures with grass control products may result in poor grass control. Consult your state experiment station, university or extension agent, agricultural dealer, or crop consultant as to the potential for antagonism before using the mixture. If no information is available, limit the initial use of MM 60 DF and the grass product to a small area.

To control wild oat, tank mix with Avenge⁴ or Assert⁴. When tank mixing with Assert, always include 2,4-D ester, MCPA ester, or Bromoxynil containing products (such as Buctril, or Bronate). Tank-mixed applications of MM 60 DF plus Assert may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application.

Do not and mix with Hoelon⁵ 3EC, as grass control may be reduced.

With Express⁹

MM 60 DF may be tank mixed with Express based on local recommendations.

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using this tank mixture.

With Harmony Extra⁹

MM 60 DF may be tank mixed with Harmony Extra based on local recommendations.

Read and follow all label instructions on timing, precautions and warnings for these herbicides before using this tank mixtures.

13/25

With Insecticides and Fungicides

MM 60 DF may be tank mixed or used sequentially with insecticides and fungicides registered for use on cereal grains.

However, under certain conditions (drought stress, cold weather, or if the crop is in the 2-4 leaf stage), tank mixes or sequential applications with organophosphate insecticides (such as parathion, Di-Syston) may produce temporary crop yellowing or, in severe cases, crop injury.

The potential for crop injury is greatest when wide fluctuations in day/night temperatures occur just prior to or soon after application.

Test these mixtures in a small area before treating large areas.

Do not apply MM 60 DF within 60 days of crop emergence where an organophosphate insecticide (such as Di-Syston) has been applied as an in-furrow treatment as crop injury may result.

Do not use with Malathion, as crop injury will result.

With Liquid Nitrogen Solution Fertilizer

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing MM 60 DF in fertilizer solution.

MM 60 DF must first be slurried with water and then added to liquid nitrogen solutions (e.g., 28-0-0, 32-0-0). Be sure agitator is running while MM 60 DF is added. This mixture may result in temporary crop yellowing and stunting. When using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of a surfactant is necessary. Add surfactant at ½ pt. to 1 qt. per 100 gal. of spray solution (0.06-0.25% v/v) based on local recommendations.

When using high rates of liquid nitrogen fertilizer in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or extension agent for a specific recommendation before adding an adjuvant to these tank mixtures.

When 2,4-D or MCPA is included with a fertilizer/MM 60 DF mixture, ester formulations, of 2,4-D or MCPA tend to be more compatible in combinations with MM 60 DF (see manufacturer's label). Do not add surfactant when using MM 60 DF in tank mix with 2,4-D ester or MCPA ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid fertilizer as a substitute for a surfactant.

Do not use with liquid fertilizer solutions with a pH less than 3.0.

Tank Mixtures in Harvest Aid

A tank mix of MM 60 DF plus 2,4-D and surfactant, or Roundup, will typically aid in dry down of many broadleaved weeds, thereby aiding grain harvest. Postemergence application should be made to actively growing weeds after the crop is in the hard dough stage. If weeds are not dry within 10 days after application, delay harvest until weeds are dry.

See weeds listed in the **Weeds Controlled** chart of this label.

With 2,4-D

Mix 1/10 oz. MM 60 DF plus ¼ to ½ lb. active ingredient 2,4-per acre on moderate weed infestations; higher rates of 2,4-D may be used on large weeds if permitted by the 2,4-D product labeling. Include 1 to 2 qts. surfactant per 100 gals. spray solution. In addition to the weeds listed in the **Weeds Controlled** chart of this label, the 2,4-D combination will also dry down common cocklebur, marestail, puncturevine and common and wild sunflower. In areas where 2,4-D use is restricted, apply MM 60 DF with surfactant only; however, this treatment may be less effective.

With Roundup¹⁰ (or Generic Brands of Glyphosate)

Use 1/10 oz. MM 60 DF plus the locally recommended rate of Roundup (See Roundup label for maximum season rate). Use an adjuvant for optimum activity – consult the Roundup label (or Generic Glyphosate) or local recommendations for the amount of adjuvant to include.

Tank Mixtures in Fallow

MM 60 DF may be used as a fallow treatment. Metsulfuron Methyl may also be tank mixed with other herbicides that are registered for use in fallow.

Read and follow all manufacturer’s label recommendations for the companion herbicide. If those recommendations conflict with this label, do not tank mix the MM 60 DF.

Tank Mixtures in Pasture or Rangeland

Apply a tank-mix combination with Grazon⁷ P+D, Tordon⁷ 22K, 2,4-D, “Banvel”, or Weedmaster³ in states where these products are labeled for postemergence control of the following weeds:

Annual marshelder	Common ragweed
Burclover	Giant ragweed
Carolina horsenettle	Prickly lettuce
Common cocklebur	Sunflower
Common milkweed	Western ragweed

For best results, apply MM 60 DF at 1/10 to 2/10 oz. per acre with one of the following products.

<u>Product</u>	<u>Rate (oz./A)</u>
Grazon P+D	8 to 32
“Tordon”22K	4 to 16
2,4-D	16 to 32
Banvel	4 to 32
Weedmaster	8 to 32
Remedy	8
Amber	0.35*

*For suppression of Ragweed in Phenoxy Restricted and Herbicide Regulated Counties.

With Liquid Nitrogen Solution Fertilizer

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing in fertilizer solution.

First, slurry MM 60 DF with water and then add to liquid nitrogen solutions (e.g., 28-0-0, 32-0-0). Make sure agitator is running while MM 60 DF is added. This mixture may result in temporary crop yellowing or stunting.

15/25

When using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of surfactant is necessary. Add surfactant at ¼ pt. per 100 gal. of spray solution (0.03% v/v).

When using high rates of liquid nitrogen fertilizer in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or extension agent for a specific recommendation before adding an adjuvant to these tank mixtures.

When 2,4-D or MCPA is included with a fertilizer/MM 60 DF mixture, ester formulations tend to be more compatible (see manufacturer's label). Do not add surfactant when using MM 60 DF in tank mix with 2,4-D ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid fertilizer as a substitute for a surfactant.

Do not use with liquid fertilizer solutions having a pH less than 3.0.

Crop Rotation

Before using this product carefully consider your crop rotation plans and options. For rotational flexibility, do not treat all of your wheat, barley, fallow, pasture, or rangeland acres at the same time.

Minimum Rotation Intervals

Minimum rotation intervals* are determined by the rate of breakdown of MM 60 DF. Breakdown in the soil is affected by soil pH, soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture speed breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature and soil moisture can vary significantly from year to year and from area to area. For this reason, soil temperatures and soil moisture should be monitored closely when considering crop rotations.

*The minimum rotation interval represents the period of time from the last application to the earliest date of the next planting.

Soil pH Limitations

MM 60 DF should not be used on soils having a pH above 7.9 as extended soil residual activity could require longer crop rotation intervals than normal. Under certain conditions, MM 60 DF could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soil can be extremely sensitive to low concentrations of MM 60 DF.

Checking Soil pH

Before using Metsulfuron Methyl DF, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

10/25

Rotational Intervals for Cereals
All Areas-Following Use of MM 60 DF at 1/10 oz. per Acre

Crop	Soil pH	Minimum Cumulative Precipitation (Inches)	Minimum Rotation Interval (months)
Winter and spring wheat	7.9 or lower	No restrictions	1
Durum wheat, barley, spring/winter oat	7.9 or lower	No restrictions	10

Rotational Intervals For Crops in Non-Irrigated Land Following Use of MM 60 DF at 1/10 oz. per Acre on Wheat, Barley or Pasture

State	Location County or Area	Crop	Soil pH	Minimum Cumulative Precipitation (Inches)	Minimum Rotation Interval (months)
Colorado	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Generally No. of I-70	Field corn	7.9 or lower	15	12
Idaho	Southern Idaho	Flax Safflower, Sunflower	7.9 or lower	No restrictions	22
	Statewide	Peas Lentils Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
Kansas	Statewide	Grain sorghum, Proso Millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Central and Western Kansas (West of Flinthills)	Field corn	7.9 or lower	15	12
	Western Kansas, W. of Hwy. 183	Soybeans	7.5 or lower	22	22
		Soybeans	7.6 - 7.9	33	34
	Central Kansas, Generally E. of Hwy. 183	Soybeans	7.9 or lower	15	12

17/25

	and W. of Flinthills				
Montana	Statewide	Grain sorghum, Proso Millet, Field corn	7.9 or lower	22	22
		Alfalfa (hay only)	7.6 - 7.9	No restrictions	34
		Alfalfa (hay only)	7.5 or lower	No restrictions	22
		Flax, Safflower, sunflower	7.9 or lower	No restrictions	22
Nebraska	Statewide	Grain Sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Generally W. of Hwy. 77 and E. of the Panhandle	Field corn	7.9 or lower	15	12
		Soybeans	7.5 or lower	22	22
New Mexico	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Eastern New Mexico	Cotton (dryland only)	7.9 or lower	30	22
North Dakota	W. of Hwy. 1	Grain sorghum, Proso millet, Field corn, Dry beans, Flax, Safflower, Sunflower	7.9 or lower	22	22
	E. of Hwy. 1	Grain sorghum, Proso millet, Field corn, Dry beans, Flax, Safflower, Sunflower	7.9 or lower	34	34
Oklahoma	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
		Field corn	7.9 or lower	15	12
	Panhandle	Cotton (dryland only)	7.9 or lower	30	22
	E. of the Panhandle	Cotton (dryland only)	7.9 or lower	25	14
Oregon	Statewide	Peas, Lentils, Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
South Dakota	Statewide	Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22

	S. of Hwy. 212 & E. of Missouri River & S. of Hwy. 34 & W. Missouri River	Grain sorghum, Proso millet	7.9 or lower	13	12
	Generally E. of Missouri River & S. of Hwy. 14 & W. of Missouri River	Field corn	7.9 or lower	15	12
Texas	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Panhandle	Field corn	7.9 or lower	15	12
		Cotton (dryland only)	7.9 or lower	30	22
	N. Central Texas*	Field corn	7.9 or lower	15	12
		Cotton (dryland only)	7.9 or lower	25	14
*The counties of N. Central Texas are: Archer, Baylor, Bell, Bosque, Bowie, Callahan, Camp, Cass, Clay, Collin, Cooke, Coryell, Dallas, Delta, Denton, Eastland, Ellis, Falls, Fannin, Foard, Franklin, Grayson, Hardeman, Haskell, Hill, Hood, Hopkins, Hunt, Jack, Johnson, Kaufman, Knox, Lamar, Limestone, McLennan, Milam, Montague, Morris, Navarro, Palo Pinto, Parker, Rains, Red River, Robertson, Rockwall, Shackelford, Somervell, Stephens, Tarrant, Throckmorton, Titus, Upshur, Van Zandt, Wilbarger, Wichita, Williamson, Wise, Wood, Young					
Utah	Statewide	Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
Washington	Statewide	Peas, Lentils, Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
Wyoming	Statewide	Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Southern Wyoming	Grain Sorghum, Proso Millet	7.9 or lower	No restrictions	10
	Southern Wyoming (Goshen, Laramie and Platte counties only)	Field corn	7.9 or lower	15	12
	Northern Wyoming	Grain sorghum, Proso millet, Field corn	7.9 or lower	22	22

19/25

Rotation Intervals not covered above – The minimum rotation interval is 34 months with at least 28" of cumulative precipitation during the period:

- For any major field crop not listed (see the **Rotation Intervals** table).
- If the soil pH is not in the specified range.
- If the use rate applied is not specified in the table.
- Of if the minimum cumulative precipitation has not occurred since application.

Before rotation to a major field crop at an interval shorter than recommended, a field bioassay is required for that crop. A field bioassay is required before rotation to any minor crops (as determined by the USDS criteria). See section on **Field Bioassay** for further information.

Rotation Intervals in Pasture or Rangeland for Overseeding and Renovation

Location	Crop	Minimum Use Rate on Pasture (oz. per A)	Minimum Rotation Interval (months)
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN TX, VA WV	Alfalfa, red clover, white clover, sweet clover, bermudagrass, bluegrass, orchardgrass, bromegrass, ryegrass, fescue, timothy	1/10 to 3/10	4
	Wheat (except durum)	1/10 to 3/10	1
	Durum, barley, oat	1/10 to 3/10	10
ALL AREAS NOT INCLUDED ABOVE*	Red clover, white clover, and sweet clover	1/10 to 2/10	12
	Bermudagrass, bluegrass, Orchardgrass, bromegrass, Ryegrass, timothy	1/10 to 2/10	6
	Fescue	1/10 to 2/10	18
	Wheat (except durum)	1/10 to 2/10	1
	Durum, barley, oat	1/10 to 2/10	10

Rotation Intervals not covered above – The minimum rotation interval for crops not listed is at least 34 months with at least 28" of cumulative precipitation during the period:

- For any major field crop or pasture crop not listed (see the **Rotation Intervals** table).
- If the use rate applied is not specified in the table.

Before rotation to a major field crop at an interval shorter than recommended, a field bioassay is required for that crop. A field bioassay is required before rotation to any minor crops (as determined by the USDA criteria). See section on **Field Bioassay** for further information.

BIOASSAY

A field bioassay is required before rotating to any crop not listed (see the **Rotation Intervals** table), of if the soil pH is outside the specified range, or if the use rate is outside those in the table, or if the minimum cumulative precipitation has not occurred since application.

Field Bioassay

28/25

To conduct a field bioassay, grow test strips of the crop(s) you plan to grow following treatment with MM 60 DF. Crop response to the bioassay will indicate whether or not rotation to the crop(s) grown in the test strips is advisable.

If field bioassay is planned, check with your local experts for information detailing the field bioassay procedure.

Grazing

There are no grazing restrictions for MM 60 DF.

MIXING INSTRUCTIONS

1. Fill mix tank $\frac{1}{4}$ to $\frac{1}{3}$ full of water (If using liquid nitrogen fertilizer solution in place of water, see the **Tank Mixtures** sections for additional details.)
2. While agitating, add the required amount of MM 60 DF.
3. Continue agitation until MM 60 DF is fully dispersed, at least 5 minutes.
4. Once MM 60 DF is fully dispersed, maintain agitation and continue filling tank with water. Thoroughly mix before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the necessary volume of nonionic surfactant. Always add surfactant last.
6. Continuously agitate mixture or settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply spray mixture within 24 hours of mixing to avoid product degradation.
8. If MM 60 DF and a tank mix product(s) are to be applied in multiple loads, pre-slurry the MM 60 DF in clean water prior to adding to the tank. This will prevent interference by tank mix partner(s) with the dissolution of MM 60 DF.

Do not use MM 60 DF with spray additives that reduce the pH of the spray solution to below 3.0.

SPRAY EQUIPMENT

Refer to the specific equipment manufacturer's recommendations for additional information on spray volume, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when the crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping to avoid crop injury.

Do not apply using equipment and/or spray volumes or under weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift, refer to the **Spray Drift Management** section of the label.

Continuous agitation is required to keep MM 60 DF in suspension.

SPRAYER CLEANUP

Spray equipment must be cleaned before MM 60 DF is used. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined in **After Spraying** section of this label.

At the End of the Day

2/25

When multiple loads of MM 60 DF have been applied, the interior of the tank should be rinsed with fresh water and then partially filled and the boom and hoses flushed. This prevents the buildup of deposits that can accumulate in the application equipment.

Before Spraying Crops Other Than Wheat, Barley, Fallow, Pasture, or Rangeland

To avoid injury to other crops, thoroughly clean all mixing and spray equipment immediately following use of MM 60 DF as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal. of household ammonia* (contains 3% active) for every 100 gal. of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

*Equivalent amounts of an alternate-strength ammonia solution or other recommended cleaners can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or extension agent for a listing of approved cleaners.

Notes:

1. **Attention: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.**
2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to remove any caked deposits.
3. When this product is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition, all precleanout guidelines on subsequently applied products should be followed.
5. Where spray equipment is frequently used for applications of MM 60 DF and subsequent applications of other pesticides to sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to use of MM 60 DF to further reduce the chance of crop injury.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

22/25

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150-200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.**

Controlling Droplet Size – General Techniques

Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher-rated flows produce larger droplets.

Pressure – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**

Nozzle type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size – Aircraft

Number of Nozzles – Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation – Orienting nozzles so that the spray is emitted backwards, parallel to the airstream, will produce larger droplets than other orientations.

Nozzle Type – Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

Boom Length – The boom length should not exceed $\frac{1}{4}$ of the wing or rotor length – longer booms increase drift potential.

Application Height – Application more than 10 ft. above the canopy increase the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

23/25

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDING SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

PRECAUTIONS

*Injury to or loss of desirable trees or vegetation may result from failure to observe the following:

- Do not apply, drain, or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
- Do not use on grasses grown for seed.

Do not apply to irrigated land where tailwater will be used to irrigate crops other than wheat and barley.

Do not apply to frozen ground as surface runoff may occur.

Do not apply to snow-covered ground.

24/25

Wheat and barley varieties may differ in their response to various herbicides. Consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of MM 60 DF to a small area.

Under certain conditions such as heavy rainfall, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after application, temporary discoloration and/or crop injury may occur. Do not apply to wheat or barley that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage, as crop injury may result. Risk of injury is greatest when crop is in the 2 to 5-leaf stage. Severe winter stress, drought, disease, or insect damage following application also may result in crop injury.

The combined effects of MM 60 DF postemergence applied following use of preemergence wild oat herbicides may cause crop injury to spring wheat when crop stress (soil crusting, planting too deep, prolonged cold weather, or drought) causes poor seedling vigor.

In the Pacific Northwest, to prevent cold weather-related crop injury, avoid making applications during winter months when weather conditions are unpredictable and can be severe.

Do not apply to wheat, barley or pastures undersown with legumes, as injury to the forage may result. To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than cereal grains or pasture/rangeland.

For ground applications applied to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D or MCPA should improve weed control under these conditions.

Preplant or preemergence applications of 2,4-D or herbicides containing 2,4-D made within 2 weeks of planting spring cereals may cause crop injury when used in conjunction with early postemergence applications of MM 60 DF. For increased crop safety, delay treatment with MM 60 DF until crop tillering has begun.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

PRODUCT DISPOSAL: Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple-rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT: Read the information below before using this product. If the terms are not acceptable, you should return the unopened product container immediately for a complete refund.

WARRANTY STATEMENT

CONTROL SOLUTIONS, INC. warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks

25/25

inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of CONTROL SOLUTIONS, INC. In no case shall CONTROL SOLUTIONS, INC. be liable for consequential, special, or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. In addition to the foregoing, no purchaser of this product (other than an end user) shall be entitled to any reimbursement for any loss suffered as a result of any suspension or cancellation of the registration for this product by the U.S. Environmental Protection Agency. Except as expressly provided herein, CONTROL SOLUTIONS, INC. makes no warranties, guarantees, or representations of any kind, either expressed or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage. The exclusive remedy of any buyer or user of this product for any and all losses, injuries, or damages resulting from or in any way arising from the use, handling, or application of this product, whether in contract, warranty, tort, negligence, strict liability, or otherwise, shall be damages not exceeding the purchase price paid for this product or, at CONTROL SOLUTIONS, INC. election, the replacement of this product.

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1. Delevan Corp.
2. Novartis
3. BASF Corp.
4. American Cyanamid Company
5. Rhone-Poulenc Agriculture Company
6. AgrEvo Company
7. Dow AgroSciences
8. Bayer Corp.
9. DuPont
10. Monsanto Co.

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