

EXPRESS® HERBICIDE

P423
352-509
P4294

DISPERSIBLE GRANULE

ACTIVE INGREDIENT:

Methyl 2-[2-[4-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-methylamino]carbonyl]amino]benzoate

BY WEIGHT

75%

INERT INGREDIENTS:

25%

TOTAL 100%

EPA Reg. No. 352-XXX

U.S. Patent 4,383,113

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION!

Avoid contact with skin, eyes and clothing. In case of contact with eyes, immediately flush with plenty of water. Get medical attention if irritation persists. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse.

For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands (swamps, bogs, marshes, potholes). Do not contaminate water by disposal of equipment washwaters.

DIRECTIONS FOR USE

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

*Express® Herbicide should be used only in accordance with recommendations on this label or in separately published Du Pont recommendations.

Du Pont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Du Pont.

IMPORTANT INFORMATION

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply or 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, or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water. Thoroughly clean all traces of Du Pont "Express" Herbicide from application equipment immediately after use. (Refer to "SPRAYER CLEANUP" section of this label.) Failure to follow these procedures may result in injury to subsequently sprayed crops.

GENERAL INFORMATION

Du Pont "Express" Herbicide is recommended for selective postemergence control of certain broadleaf weeds in wheat (including durum) and barley. Do not use "Express" on any other crop. "Express" is a water dispersible granule to be mixed in water or other recommended carrier and applied as a uniform broadcast spray. It is noncorrosive, nonflammable, nonvolatile and does not freeze.

Best results are obtained when "Express" is applied to young, actively growing weeds. The use rate will depend on weed spectrum and size of weed at time of application. The degree of control and duration of effect are dependent on rate used, sensitivity and size of target weed and environmental conditions at the time of and following application.

"Express" stops growth of susceptible weeds rapidly. However, typical symptoms of dying weeds (discoloration) may not be noticeable for 1-3 weeks after application (2-5 weeks for wild garlic) depending on the environmental conditions and weed susceptibility. Warm, moist conditions following treatment promote the activity of "Express", while cold, dry conditions delay the activity. Weeds hardened off by cold weather or drought stress will be less susceptible.

EXPRESS® 1

A vigorous growing crop will aid weed control by shading and providing competition for weeds. However, a dense crop canopy at time of application can intercept spray and result in reduced weed control. Weeds may not be adequately controlled in areas of thin crop stand or seeding skips.

Naturally occurring weed biotypes that are resistant to "Glean", "Finale" or "Ally" will also be resistant to "Express". In areas where these weed biotypes are known to exist, only spray "Express" in tank mixtures with other broadleaf herbicides having a different mode of action** such as 2,4-D, Banvel(1)"/Banvel" II***, Budri(2), Bronate(2), Curtail(3), MCPA, "Karmex" or "Lexone". Refer to TANK MIXTURES.

* Biotypes are naturally-occurring individuals of the species which have a slightly different genetic makeup. Resistant biotypes may look exactly the same as susceptible biotypes. Herbicide resistant biotypes are able to survive a use rate several times higher than needed to control susceptible biotypes.

** Mode of action is the chemical interaction that interrupts a biological process necessary for plant growth and development.

*** Tank mixes with "Banvel" or "Banvel" II may result in reduced control of some broadleaf weeds.

Read and follow all appropriate sections of label, including precautions, before using this product.

WEED CONTROL IN WHEAT AND BARLEY

CROP STAGE AT APPLICATION

Make applications after the crop is in the 2-leaf stage, but before the flag leaf is visible (Zadoks 12 through 36).

APPLICATION RATES

Apply 1/6 to 1/3 ounce "Express" per acre to wheat (including durum) or barley for control or partial control of the weeds listed below.

Use 1/3 ounce "Express" per acre when weed infestation is heavy and predominately consists of those weeds listed under partial control, or when application timing and environmental conditions are marginal (refer to APPLICATION AND ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE).

Use 1/6 to 1/4 ounce "Express" per acre when weed infestation is light and predominately consists of those weeds listed under weeds controlled, and when optimum application conditions occur.

Sequential treatments of "Express" may be made provided the total amount of "Express" applied to the crop does not exceed 1/3 ounce per acre; for example, 1/6 ounce followed by 1/6 ounce. The final application must be made before the flag leaf is visible.

WEEDS CONTROLLED

Black mustard	Flaxweed
Blue/purple mustard	Kochia
Bushy wallflower/Treacle mustard	Mayweed chamomile
Coast fiddleneck	Miners lettuce
Common chickweed	Pineappleweed
Common groundsel	Prickly lettuce
Common lambsquarters	Russian thistle
Corn spurry	Stinkweed lambsquarters
False chamomile	Tarweed fiddleneck
Field pennycress	Wild chamomile

PARTIAL CONTROL*

Annual sowthistle	Redroot pigweed
Canada thistle**	Shepherdspurse
Common sunflower	Tansymustard
Hairy nightshade	Tumble/Kim Hill mustard
Henbit	Wild buckwheat
Pennsylvania smartweed	Wild garlic
Prostrate knotweed	Wild radish
Redmaids	

*Partial control: A visual reduction of weed population as well as a significant loss of vigor for individual weed plants. For best results, use 1/3 ounce "Express" per acre.

**See SPECIFIC WEED PROBLEMS for more information.

SPECIFIC WEED PROBLEMS

Canada thistle: For best results apply 1/3 oz. per acre plus surfactant in the spring when all thistles have emerged above the soil, are actively growing, and are 4 to 8 inches tall with 2 to 6 inches of new growth.

APPLICATION AND ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

Crop Stage: Make applications after the crop is in the 2-leaf stage, but before the flag leaf is visible (Zadoks 12 through 36).

Since thorough coverage is required, avoid crop canopy obstruction of the spray contacting the weed foliage.

Crop Competition: A vigorous growing crop will aid weed control by shading and providing competition for weeds. However, a dense crop canopy at time of application can intercept spray and result in reduced weed control. Weeds may not be adequately controlled in areas of thin crop stand or seeding skips.

Plant Stage: Since "Express" has very little or no soil activity, only those weeds that have germinated above the soil surface will be controlled. Consequently, application of "Express" should be made when all or the majority of weeds have germinated. Annual broadleaf weeds should be past the cotyledon stage, actively growing, and less than 4 inches tall or across. Wild garlic plants should be 6 to 12 inches tall with 4 to 6 inches of new growth. See SPECIFIC WEED PROBLEMS for more information on Canada thistle.

Application: Foliar absorption is the primary means of "Express" uptake by plants; therefore, thorough spray coverage of weeds is essential.

Weather: Conditions which are conducive to healthy, actively growing plants optimize "Express" weed control performance. Ideal conditions include warm temperatures (70 Deg.F. or more) and adequate soil moisture before, during and immediately after application.

Avoid making applications of "Express" to weeds when rainfall is threatening. Rainfall immediately after treatment can wash "Express" off weed foliage and result in reduced weed control effectiveness. Several hours of dry weather are needed to allow "Express" to be absorbed by weed foliage.

Surfactant: Use only EPA approved surfactants authorized for use on food crops.

Water Spray Carrier - Unless specified otherwise, add a nonionic surfactant of at least 80% active ingredient strength at 0.25% vol/vol (1 quart per 100 gallons of spray solution).

Liquid N Carrier - Always use surfactant when applying "Express" in liquid nitrogen fertilizer. When "Express" is applied using liquid nitrogen fertilizer solution as a spray carrier, early, temporary, crop yellowing and stunting may occur. Use 0.125 - 0.25% vol/vol surfactant (1 pint - 1 quart per 100 gallons of spray solution) when applying "Express" in liquid nitrogen fertilizer solution. Refer to TANK MIXTURES for surfactant information when tank mixing with other products.

EQUIPMENT-SPRAY VOLUMES

Prior to spraying "Express", thoroughly clean sprayer (tanks, booms, hoses, nozzles, mixing cones, tanks, etc.).

Apply using properly calibrated air or ground equipment. Select a spray volume and delivery system that will insure thorough coverage and a uniform spray pattern. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

Do not apply "Express" through any type of irrigation system.

Spray Equipment: Refer to specific manufacturer's recommendations for additional information on spray volume (GPA), pressure, speed, nozzle types and arrangements, nozzle heights above the target area, etc., for respective application equipment.

Ground Application: For optimum spray distribution and thorough coverage, use flat fan or low volume flood nozzles. For flat fan nozzles, do not use less than 5 gallon spray volume per acre (GPA).

For flood nozzles on 30-inch spacing, use not less than 10 GPA and no larger than TK10 or equivalent and not less than 30 psi. On 40-inch nozzle spacings, use not less than 13 GPA or not less than 20 GPA when nozzles are on a 60-inch spacing. 100% overlapping of nozzle spray pattern is essential for 30, 40 and 60-inch spacings.

When using liquid nitrogen solution as a spray carrier, for flood nozzles use not less than 30 GPA and no larger than TK20. See statements on liquid N solutions below for additional information.

"Raindrop" [4] nozzles are not recommended for "Express" applications as weed control performance may be reduced.

Use 50-mesh screens or larger.

Aerial Application: Use orifice sizes, cones and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage at 3 to 5 GPA. Do not apply during inversion conditions, when winds are gusty, or when other conditions will favor poor coverage and/or off target spray movement.

Liquid Nitrogen Fertilizer Solutions: "Express" can be added directly to liquid N solutions (for example 28-0-0, 32-0-0). Use 0.125 - 0.25% vol/vol surfactant (1 pint - 1 quart per 100 gallons of spray solution) when applying "Express" in liquid nitrogen fertilizer solution. The addition of liquid nitrogen fertilizer to the spray solution, or the use of liquid nitrogen fertilizer as the total carrier of the spray solution will increase the weight of the spray solution as compared to water (see table below). Consequently, appropriate conversions of spray nozzles and/or pressure must be made in order to maintain proper spray volumes. Refer to the conversion chart below for guidance (taken from Spray Systems Company Catalog 39, page 2).

Influence of adding liquid 28% N fertilizer to spray solution weight per gallon:

% of Spray Solution	Weight of Spray Solution	
	Water	28% N (Lbs/Gallon)
100	0	8.34
50	50	9.5
0	100	10.6

SPRAYING SYSTEMS CONVERSION CHART

SPRAYING SOLUTIONS OTHER THAN WATER-- NEW METHOD

Since all the tabulations are based on spraying water, which weighs 8.34 lbs per USA gallon, conversion factors must be used when spraying solutions which are heavier or lighter than water. To determine the proper size nozzle for the solution to be sprayed, first multiply the desired GPM or GPA of solution by the water rate conversion factor. Then use the new converted GPM or GPA rate to select the proper size nozzle.

Example: 10 GPA (28%N) X 1.13 = 11.3 GPA (water)

Weight of Solution	Specific Gravity	Conversion Factors
7.0 lbs per gallon	0.84	0.92
8.0 lbs per gallon	0.96	0.98
8.34 lbs per gallon	1.00	1.00
9.0 lbs per gallon	1.08	1.04
10.0 lbs per gallon	1.20	1.10
10.65 lbs per gallon-28% nitrogen	1.28	1.13
11.0 lbs per gallon	1.32	1.15
12.0 lbs per gallon	1.44	1.20
14.0 lbs per gallon	1.68	1.30

Published in Spraying Systems Company Catalog 39, page 2.

Agitation: Continuous agitation is required to keep "Express" in suspension.

CAUTION - AVOID SPRAY DRIFT

Do not allow spray from either ground or aerial equipment to drift onto adjacent crops or land, as even small amounts will injure other plants. When spraying near adjacent, sensitive crops or plants, do everything possible to reduce spray drift. This includes:

- o Stop spraying if wind speed becomes excessive. DO NOT SPRAY IF WIND SPEED IS 10 MPH OR GREATER. Spray drift can occur at wind speeds less than 10 MPH. If sensitive crops or plants are downwind, extreme caution must be used even in relatively low wind conditions! DO NOT SPRAY IF WINDS ARE GUSTY.
- o High temperatures, drought, and low relative humidity increase the possibility of harmful spray drift. EXTREME CAUTION MUST BE USED WHEN THESE CONDITIONS ARE PRESENT AND SENSITIVE CROPS OR PLANTS ARE NEARBY, REGARDLESS OF WIND SPEED.
- o Do not apply when an inversion exists. An inversion is characterized by little or no air movement and an increase in air temperature with an increase in altitude. In humid regions, a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. Smoke-producing devices on aircraft are recommended. If not sure whether inversion conditions are present, consult with local weather services before making an application.
- o Postemergence grass herbicides (such as Avenge[5] and Assent[5]) are often applied using high pressure. When "Express" is tank mixed with these products, do not exceed 40 psi.
- o Drift from aerial or ground equipment may be further reduced by:
 1. Using coarse sprays to minimize drift. DO NOT APPLY WITH HOLLOW-CONE INSECTICIDE NOZZLES ON GROUND EQUIPMENT. Do not use nozzles that produce fine droplets, such as Sprayloil [6] or airblast-type nozzles. Nozzles should be oriented at an angle between straight down and straight back for ground applications. For aerial applications orient nozzles straight back into the windstream. If using flood-type nozzles on aircraft, orient them so spray is produced in direction of the airstream.
 2. Increasing volume of spray mix per acre (for example, minimum 5 GPA by air, 10 GPA by ground) by using higher flow rate nozzles.
 3. Reducing pressure (PSI). DO NOT EXCEED 40 PSI. [Vehicle speed must also be reduced to maintain spray mix volume per acre.] Consult manufacturer's catalogs for details on correct calibration.
 4. Apply as close to target plants as possible while still maintaining a good spray pattern.

TANK MIXTURES

2,4-D (amine or ester) or MCPA (amine or ester) - Use "Express" plus 1/8 to 3/8 lb active ingredient 2,4-D or MCPA (ester formulations have provided best results). Surfactant may be added at 0.125 - 0.25% vol/vol (1 to 2 pints per 100 gallons of spray volume); however, the addition of surfactant may increase the chance of crop injury. Use the 1 to 2 pint rate of surfactant with 1/8 lb active ingredient rate of 2,4-D or MCPA. Use the 1 pint rate of surfactant with 1/4 to 3/8 lb active ingredient of 2,4-D or MCPA. Higher rates of 2,4-D or MCPA may be used, but do not exceed highest rate allowed on the label.

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Always mix "Express" in water prior to adding 2,4-D or MCPA and surfactant. Read and follow all label instructions on timing, precautions and warnings for these herbicides prior to using these tank mixtures.

"Express" may be tank mixed with other suitable registered herbicides (for example "Karmex" and "Lexone") to control weeds other than those listed. Read and follow all manufacturer's label recommendations for the companion herbicide. If these recommendations conflict with this "Express" label, do not use as a tank mix with "Express".

"Express" will not control wild oats or other grasses. For wild oat control, "Express" can be tank mixed with "Avenge" or "Assent". When tank mixing "Express" and "Assent", ALWAYS include another broadleaf weed herbicide with a different mode of action, for example: MCPA ester, "Bronate". DO NOT tank mix with Hoelon[7] SEC as grass weed control may be reduced.

Always mix "Express" in water PRIOR to adding other products, including surfactants. When mixing "Express" in liquid nitrogen fertilizer solutions (for example 28-0-0, 32-0-0), simply add the "Express" directly to the liquid fertilizer with the agitator running.

Refer to SPRAY PREPARATION for further information.

Tank mixes of "Express" plus "Banvel" or "Banvel II" may result in reduced control of some broadleaf weeds.

Tank mixes of "Express" plus metribuzin may result in reduced control of wild garlic.

"Express" may be tank mixed or used sequentially with insecticides registered for use on cereal grains. However, under certain conditions, (drought stress, crop in 2-4 leaf stage) tank mixes or sequential applications of "Express" plus organophosphate insecticides (such as parathion) may produce temporary crop yellowing or, in severe cases, crop injury. Limit first use to a small area before treating large areas.

DO NOT USE "Express" PLUS MALATHION.

SPRAY PREPARATION

Mix the proper amount of "Express" into the necessary volume of water in the spray tank with the agitator running, then add the companion herbicide to the tank after all the "Express" is in suspension. ALWAYS MIX "Express" IN WATER FIRST, PRIOR TO ADDING OTHER PRODUCTS IN THE SAME SPRAY TANK.

Use the spray preparation of "Express" within 24 hours as product degradation may occur. If spray preparation is left standing, thoroughly agitate before reusing.

Surfactant: Unless specified otherwise, add a nonionic surfactant of at least 80% active ingredient strength at 0.25% vol/vol (1 quart per 100 gallons of spray solution). Use only EPA approved surfactants authorized for use on food crops.

Liquid Nitrogen Fertilizer: Liquid nitrogen fertilizer solutions such as 28-0-0 or 32-0-0, may be used as a carrier in place of water. To apply "Express" with liquid nitrogen fertilizer, simply add the "Express" directly to the liquid fertilizer with the agitator running (for at least 3 to 5 minutes). For fertilizer solutions that contain more than just nitrogen, for example 10-34-0, slurry the desired amount of "Express" in a clean bucket using water until a flowable mixture is produced. Add this slurry to the agitating spray tank of liquid nitrogen fertilizer solution. Thoroughly rinse all of the

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"Express" slurry into the spray tank. Do not use "Express" in liquid fertilizer solutions of less than pH 3. Run a tank mix compatibility test before mixing "Express" in fertilizer solution.

Use 0.125 - 0.25% vol/vol surfactant (1 pint - 1 quart per 100 gallons of spray solution) when applying "Express" in liquid nitrogen fertilizer solution.

Use of "Express" and a surfactant in liquid nitrogen fertilizer solutions may cause early, temporary crop injury (discoloration and stunting).

When the spray solution contains liquid nitrogen fertilizer, the weight per gallon of solution varies significantly from the weight of water (8.34 lbs per USA gallon). Consequently, liquid nitrogen fertilizer spray solutions must use the appropriate conversion in order to insure proper spray volume. See EQUIPMENT-SPRAY VOLUMES for further information.

CROP ROTATION

Any crop may be planted 60 days after the application of "Express".

SPRAYER CLEANUP

To avoid subsequent injury to crops other than wheat or barley, immediately after spraying thoroughly remove all traces of "Express" from mixing and spray equipment as follows:

1. Drain tank; rinse interior surfaces of tank; then flush tank, boom and hoses with clean water for a minimum of 5 minutes.
2. Fill the tank full with clean water, then add cleaning solution*. Flush solution through boom, hoses and nozzles, then allow to sit for 15 minutes with agitation running; then drain.
3. Repeat Step 2.
4. Repeat Step 1.
5. Nozzles and screens should then be removed and cleaned separately. To remove traces of cleaning solution, rinse the tank thoroughly with clean water and flush through hoses and boom.
6. Flush boom and hoses with clean water for 5 minutes just prior to using the sprayer for the first time after the "Express" application.

*Use any one of the following cleaning solutions:

1. Nutra-Sol (carefully read and follow Nutra-Sol label directions).
2. Loveland Spray Tank Cleaner (carefully read and follow Loveland Spray Tank Cleaner label directions).
3. One-half gallon chlorine bleach (containing 5 1/4% sodium hypochlorite) per 100 gallons of water.
4. One gallon ammonia (containing 3% active) per 100 gallons of water.

CAUTION: Do not use chlorine bleach with ammonia. All traces of liquid fertilizer containing ammonia, ammonium nitrate or ammonium sulfate must be rinsed with water from the mixing and application equipment before adding chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor which can cause eye, nose, throat and lung irritation. Do not clean equipment in an enclosed area.

PRECAUTIONS

The total rate of "Express" cannot exceed 1/3 ounce product per acre applied to any one crop during one growing season.

Do not graze or feed forage or hay from treated areas to livestock (dry-harvested straw may be used for bedding and/or feed).

Do not plant to any crop other than wheat or barley for 60 days after application of "Express".

Do not apply to wheat or barley that is stressed by severe winter, drought, water-saturated soil, disease or insect damage as crop injury may result. Under certain conditions such as prolonged cool weather (daily high temperature less than 50 Deg.F.) or wide fluctuations in day/night temperatures just prior to or soon after treatment, temporary yellowing and/or crop stunting may occur. Risk of injury is greatest when crop is in the 2 to 5-leaf stage.

Do not apply to wheat or barley crops underseeded with another crop.

"Express" is only registered on wheat and barley. Do not use on any other crop.

For ground applications applied to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced.

The "Express" volumetric measuring cylinder is to be used only as a guide, since the degree of accuracy varies by plus or minus 7.5%. For more precise measurement, use scales calibrated in ounces.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Waste 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) the container. 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.

- 1 Registered trademark of Sandoz Crop Protection Corporation.
- 2 Registered trademark of Rhone - Poulenc Ag Company.
- 3 Registered trademark of the Dow Chemical Company.
- 4 Registered trademark of Delevan Corporation.
- 5 Registered trademark of American Cyanamid Company.
- 6 Registered trademark of D. AND W. INDUSTRIES.
- 7 Registered trademark of Hoechst-Roussel Agri-Vet Company.

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NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

NOTICE OF WARRANTY

Du Pont 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 inherently associated with the 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 Du Pont. In no case shall Du Pont 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. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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