

100-1098

07/10/2008

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**WASHINGTON, D.C. 20460**

**OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES**

**JUL 10 2008**

Greg Watson  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300

Subject: Abound® Flowable Fungicide and Azoxystrobin active  
active ingredient  
EPA Registration Number 100-1098 and Tolerance Petition  
Numbers 6F7106 and 7F7198  
Your data and supplemental label submissions for EPA  
Reg. No. 100-1098 under Decisions D370691 and D377487,  
and the submission of Tolerance Petitions No. 6F7106  
under Decision D370694 and No. 7F7198 under Decision  
D377489

Dear Mr. Watson,

The supplemental label referred to above, submitted on February 8, 2008 in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable, provided that you comply with the following conditions.

1. Submit, within 30 days of the date of this letter, an acceptable revised master label for the subject product that incorporates the additional crops and their specific use directions that are being added, as well as other changes (such as to the plant-back interval text) that are being made, to the labeling of the subject product by the Agency's acceptance of the subject supplemental label.
2. Submit the following studies by the due date that is stated for each.
  - a. By July 10, 2011, submit four sorghum field trial studies which bridge the residue data for foliar use on sorghum to the in-furrow use on sorghum. These studies must be conducted in

Zones 5 (2 trials), 6 (1 trial), and 8 (1 trial). The submitted residue data for sorghum are not adequate because they reflect only the proposed use pattern for post-emergence foliar applications and not the in-furrow treatment. This condition of registration may also be removed by deleting the in-furrow use from the label.

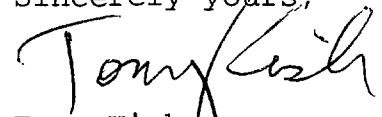
b. By July 10, 2010, submit an Avian Reproduction study using the Bobwhite Quail (Guideline Requirement Number (GRN) 71-4a).

c. By July 10, 2010, submit an Mysid Shrimp Chronic Toxicity study (GRN 72-4b).

3. Submit one copy of your final printed labeling before you release the product for shipment.

If you have any questions about this letter, please contact John Bazuin at (703)305-7381 or bazuin.john@epa.gov.

Sincerely yours,



Tony Kish  
Product Manager (22)  
Fungicide Branch  
Registration Division (7505C)

Attachment: Supplemental label stamped "ACCEPTED"

**SUPPLEMENTAL LABEL**



Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, NC 27419-8300  
[www.syngenta-us.com](http://www.syngenta-us.com)

**SUPPLEMENTAL LABEL FOR ABOUND® FLOWABLE**

**Fungicide**

Broad spectrum fungicide for control of plant diseases

**Active Ingredient:**

Azoxystrobin: methyl (E)-2-[2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl]-3-methoxyacrylate\* ..... 22.9%

Other Ingredients: ..... 77.1%

Total: ..... 100.0%

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
JUL 10 2008**

**Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
100-1098**

Contains 2.08 lbs. of active ingredient per gallon

\*IUPAC

EPA Reg. No. 100-1098

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

**All applicable directions, restrictions and precautions on the EPA-registered label are to be followed.**

**Before using Abound Flowable Fungicide as permitted according to this supplemental label, read and follow all applicable directions, restrictions, and precautions on the EPA registered label on or attached to the pesticide product container. This Supplemental Labeling contains revised use instructions and or restrictions that may be different from those that appear on the container label. This Supplemental Labeling must be in the possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.**

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**GENERAL USE PRECAUTIONS**

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Do not graze or feed clippings from treated turf areas to animals. Do not plant the following crops for a period of 12 months (unless an azoxystrobin product is registered for use on that crop): ~~serghum, barley, buckwheat, millet, oats, and rye, wild rice, non-grass animal feeds (alfalfa, clover), sugarcane, triticale and wheat.~~ A plantback interval (PBI) of 36 days is required for Leafy Vegetables (Except Brassica) group; Brassica, Leafy Greens subgroup; Vegetables, Root subgroup; Vegetable (Tuberous and Corm) subgroup; and Vegetables, Leaves of Root and Tuber group. Azoxystrobin is registered for use on all other rotated crops and all other crops may be planted immediately after the last treatment.

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Barley	Kernel Blight ( <i>Alternaria</i> spp.) Leaf Rust ( <i>Puccinia hordei</i> )	6.0-12.0 (0.10-0.20)	<b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, proper timing and placement of irrigation, removal of plant debris in which inoculum overwinters, plant residue management, and crop rotation.
	Net blotch ( <i>Pyrenophora teres</i> ) Barley Stripe ( <i>Drechslera graminea</i> = <i>Pyrenophora graminea</i> )	9.0-12.0 (0.15-0.20)	<b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than two (2) applications of Abound or other Group 11 fungicide per season.
	Powdery Mildew ( <i>Erysiphe graminis</i> f. sp. <i>hordei</i> ) Stagonospora blotch ( <i>Stagonospora nodorum</i> )	12.0 (0.20)	<b>Application Directions:</b> Abound should be applied prior to disease development from jointing (Feekes 6 or Zadok's 31) up to late head emergence (Feekes 10.5 or Zadok's 59). Applications may be made by ground, air or chemigation. A crop oil concentrate adjuvant may be added at 1.0% v/v to optimize efficacy.

**Specific Use Restrictions:** Do not apply until after forage stage (Feekes 6 or Zadok's 31).  
 Do not apply later than Feekes growth stage 10.5 (Zadok's growth stage 59).  
 Do not harvest treated barley for forage.  
 Do not apply more than 0.40 lb. a.i./A per season of azoxystrobin-containing products.  
 Do not apply within 14 days of harvest for forage and hay.  
 Do not apply within 45 days of harvest for grain and straw.

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Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b><u>Clover (and stands containing Clover)</u></b> (<i>Trifolium</i> spp., <i>Melilotus</i> spp.)</p>	<p><u>Rust</u> (<i>Phakopsora</i> spp.) <u>Alternaria Leaf spots</u> (<i>Alternaria</i> spp.) <u>Cercospora leaf spots</u> (<i>Cercospora</i> spp.) <u>Powdery Mildew</u> (<i>Oidium</i> spp., <i>Erysiphe</i> spp.) <u>Downy Mildew</u> (<i>Peronospora</i> spp.)</p>	<p>6.0-15.5 (0.10-0.25)</p>	<p><b><u>Integrated Pest (Disease) Management:</u></b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, proper timing and placement of irrigation, crop rotation and crop residue management.</p> <p><b><u>Resistance Management:</u></b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b><u>Application Directions:</u></b></p> <p>Abound applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Use the higher rates under severe disease pressure. Applications may be made by ground, air or chemigation. Use of an additive such as crop oil concentrate or non-ionic surfactant is recommended.</p> <p>For management of outbreaks of Asian rust on alternate host species such as kudzu, lespedeza, trefoil and vetch, apply Abound to forages grown in the vicinity of soybeans and other legume crops (beans and peas) as a part of an Asian rust disease management strategy. Consult with local experts, university extension agents, and the Syngenta rust website (<a href="http://www.soybeanrust.com">www.soybeanrust.com</a>) for the latest advice.</p>

**Specific Use Restrictions:**

For pure stands of clover or mixed stands with grasses, do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products.

Do not apply within 14 days of harvest for forage and hay.

Not for use on rangeland.

For pure stands of grasses, see **Grasses (grown for seed)** for use on grasses.

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Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Cotton	<p><del>Anthracnose (<i>Glomerella gossypii</i>)</del>  <del>Ascochyta blight (<i>A. gossypii</i>)</del>                      Rust                      (<i>Puccinia schedonardii</i>)</p>	<p><del>6-9 (0.1-0.15)</del></p>	<p><del><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper water management.</del></p> <p><del><b>Resistance Management:</b> Do not apply more than two foliar applications of Abound or other QoI fungicides before alternating with a fungicide that has a different mode of action. Do not make more than three (3) foliar applications of Abound or other QoI fungicides per crop per acre per year.</del></p> <p><del><b>Application Directions:</b> For optimum disease control, Abound applications should begin prior to or in the early stages of disease development. Applications may be made by ground air, or chemigation. An adjuvant may be added at recommended rates. Minimum application volumes for air and ground are 5 and 10 gallons per acre, respectively.</del></p> <p><del>If the first Abound application should be targeted approximately at pinhead square to first bloom to protect the plant from diseases. Subsequent application(s) are recommended on a 14-21 days schedule. An additional application may be made depending on environmental conditions and the health of the cotton plant.</del></p> <p><del>Under poor environmental conditions conducive to seedling disease and poor cotton growth, Abound may be applied to early season cotton to suppress damping off and other diseases which result in plant stand loss.</del></p>
	<p>Rhizoctonia seedling blight (<i>Rhizoctonia solani</i>)                      Pythium seedling blight (<i>Pythium aphanidermatum</i>)</p>	<p><b>In-Furrow</b>                      0.40-0.80 fl. oz.                      product per 1000                      row feet                      (0.10-0.20 oz a.i.                      per 1000 row                      feet)</p>	<p><del><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper water management.</del></p> <p><del><b>Application Directions:</b> Apply Abound as an in-furrow spray in 3-7 gallons of water at planting. Mount the spray nozzle so the spray is directed into the furrow just before the seed are covered. Use the higher rate when the weather conditions are expected to be conducive for disease development, if the field has a history of Pythium problems, or if minimum/low till programs are in place.</del></p> <p>See <b>GENERAL INFORMATION</b> section for table illustrating total fluid ounces per acre with various row spacings.</p>

**Specific Use Restrictions:** Make only one application per use season.  
 Do not apply more than 2.7 oz./crop/season as a foliar spray.  
 May be applied up to 45 days before harvest.

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<p><b><u>Nongrass Animal Feeds Forage, Fodder, Straw and Hay</u></b></p> <p>Stands containing:  <u>Alfalfa (<i>Medicago sativa</i> subsp. <i>sativa</i>)</u>  <u>Bean, velvet (<i>Mucuna</i> <i>pruriens</i> var. <i>utilis</i>)</u>  <u>Kudzu (<i>Pueraria lobata</i>)</u>  <u>Lespedeza (<i>Lespedeza</i> spp.)</u>  <u>Lupin (<i>Lupinus</i> spp.)</u>  <u>Sainfoin (<i>Onobrychis</i> <i>viciifolia</i>)</u>  <u>Trefoil (<i>Lotus</i> spp.)</u>  <u>Vetch (<i>Vicia</i> spp.)</u>  <u>Vetch, crown (<i>Coronilla</i> <i>varia</i>)</u>  <u>Vetch, milk (<i>Astragalus</i> spp.)</u></p> <p><u>Clover (see specific use instructions)</u></p>	<p><u>Rust</u>  (<i>Phakopsora</i> spp.)  <u>Alternaria Leaf spots</u>  (<i>Alternaria</i> spp.)  <u>Cercospora leaf spots</u>  (<i>Cercospora</i> spp.)  <u>Powdery Mildew</u>  (<i>Oidium</i> spp., <i>Erysiphe</i> spp.)  <u>Downy Mildew</u>  (<i>Peronospora</i> spp.)</p>	<p><u>6.0-15.5</u>  <u>(0.10-0.25)</u></p>	<p><b><u>Integrated Pest (Disease) Management:</u></b> <u>Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, proper timing and placement of irrigation, crop rotation and crop residue management.</u></p> <p><b><u>Resistance Management:</u></b> <u>Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</u></p> <p><b><u>Application Directions:</u></b> <u>Abound applications should begin prior to disease development and continue throughout the season. Use the higher rates under severe disease pressure. Applications may be made by ground, air or chemigation. Use of an additive such as crop oil concentrate or non-ionic surfactant is recommended.</u></p> <p><u>For management of outbreaks of Asian rust on alternate host species such as kudzu, lespedeza, trefoil and vetch, apply Abound to forages grown in the vicinity of soybeans and other legume crops (beans and peas) as a part of an Asian rust disease management strategy. Consult with local experts, university extension agents, and the Syngenta rust website (<a href="http://www.soybeanrust.com">www.soybeanrust.com</a>) for the latest advice.</u></p>

**Specific Use Restrictions:**

Do not apply more than 0.25 lb. ai/A per cutting.

For pure stands of nongrass animal feeds or mixed stands with grasses, do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products.

Do not apply within 14 days of harvest for forage and hay.

Not for use on rangeland.

For pure stands of grasses, see **Grasses (grown for seed)** for use on grasses.



Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Rice	<b>Sheath/Stem Diseases</b> Sheath Blight <i>(Rhizoctonia solani)</i>	6.0-18.5 (0.10-0.30)	<b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and sound water management practices.
	Aggregate Sheath Spot <i>(Ceratosidium oryzae-sativae</i> = <i>Rhizoctonia oryzae-sativae</i> ) Black Sheath Rot <i>(Gaeumannomyces graminis var. graminis)</i> Sheath Spot <i>(Rhizoctonia oryzae)</i> Stem Rot <i>(Magnaporthe salvinii = Sclerotium oryzae = Nakateae sigmoidea)</i>	9.0-18.5 (0.15-0.30)	<b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. When Abound is being applied for panicle blast on continuous rice acreage (no rotation to other crops), no more than two sequential foliar applications of Abound or other Group 11 fungicides should be made over multiple years before alternating with a fungicide with a different mode of action. Do not make more than two (2) foliar applications of Abound or other Group 11 fungicides per acre per season.  <b>Application Directions:</b> Abound should be applied prior to disease development. Applications may be made by ground, air or chemigation. For aerial application, volumes should be 5-10 GPA. An adjuvant may be added at recommended rates. For sheath blight control, application rates may vary from 9.0 to 12.0 fl. oz./A depending on the growth stage of the rice and the severity of the disease. Consult with your local extension personnel or Syngenta representative for the Syngenta Technical Bulletin on sheath blight control.
	<b>Foliar Diseases</b> Brown Leaf spot <i>(Cochliobolus miyabeanus)</i> Leaf Smut <i>(Entyloma oryzae)</i> Narrow Brown Leaf spot <i>(Cercospora janseana = Cercospora oryzae)</i>		For other stem/sheath diseases including stem rot, black sheath rot, aggregate sheath spot and sheath spot, apply when disease is less than 4 inches above water line usually between panicle differentiation (PD) +5 days to PD +10 days or at initial sign of disease. Under heavy disease pressure and conditions favorable for disease development, a second application may be applied.
	<b>Panicle Diseases</b> Kernel Smut <i>(Tilletia barclayana = Neovossia barclayana)</i> Panicle Blast <i>(Pyricularia grisea)</i>		For foliar and panicle diseases, apply Abound prior to disease development. Abound must be applied as a preventative treatment for blast control and applied prior to favorable conditions for blast development. For panicle blast, an application should be applied at mid-boot to boot-split but prior to full head emergence. A second application should be applied when panicles are approximately 60-90% emerged from the boot (7-14 days later).

**Specific Use Restrictions:** Do not treat rice fields used for aquaculture of fish and crustaceans.

Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat. Applicators should use care in making applications near non-target aquatic habitats.

Do not apply more than 0.70 lb. a.i./A per season of azoxystrobin-containing products.

Do not apply within 28 days of harvest.

Do not allow release of irrigation or flood water for at least 14 days after the last application.

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Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<u>Sorghum</u>	<u>Anthracnose</u> <i>(Colletotrichum graminicola)</i> <u>Charcoal rot</u> <i>(Macrophomina phaseolina)</i> <u>Gray leaf spot</u> <i>(Cercospora sorghi)</i>	<u>6.0-15.5</u> <u>(0.10-0.25)</u>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.</p> <p><b>Application Directions:</b> Abound applications should begin prior to disease development. Use the high rates under conditions favorable for severe disease pressure, dense plant canopies, or when susceptible varieties are planted. Contact Extension personnel for local economic thresholds and timings for specific diseases in your area. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.</p> <p><u>Charcoal rot:</u> Disease control may be enhanced by an in-furrow application of Abound as described below.</p>
	<b>Soilborne Diseases</b> <u>Damping-off</u> <i>(Rhizoctonia solani, Pythium aphanadermatum)</i>	<u>0.40-0.80 fl.</u> <u>oz./1000 row feet</u>	<p>For soilborne/seedling disease control, see directions and rates under <b>GENERAL INFORMATION</b> section.</p>

**Specific Use Restrictions:** For grain and stover, do not apply more than 0.75 lb. a.i./A per season of azoxystrobin-containing products.  
 For forage, do not apply more than 0.5 lb. a.i./A per season of azoxystrobin-containing products.  
 Do not apply within 14 days of harvest.

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Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
Wheat Triticale	Leaf Rust <i>(Puccinia triticina = Puccinia recondita f.sp. tritici)</i> Stripe Rust <i>(Puccinia striiformis)</i> Stem Rust <i>(Puccinia graminis)</i> Septoria Leaf and Glume Blotch <i>(Septoria tritici, Septoria nodorum)</i> Tan Spot <i>(Pyrenophora tritici-repentis)</i>	4.0-12.0 (0.07-0.20)	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, proper timing and placement of irrigation, removal of plant debris in which inoculum overwinters, plant residue management, and crop rotation.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. Do not apply more than two sequential applications of Abound or other Group 11 fungicides before alternation with a fungicide that is not in Group 11. Do not make more than two (2) applications of Abound or other Group 11 fungicide per season.</p> <p><b>Application Directions:</b> Abound should be applied prior to disease development from jointing (Feekes 6 or Zadok's 31) up to late head emergence (Feekes 10.5 or Zadok's 59). Applications may be made by ground, air or chemigation. A crop oil concentrate adjuvant may be added at 1.0% v/v to optimize efficacy.</p>
	Powdery Mildew <i>(Erysiphe graminis)</i>	7.5-11 (0.125-0.175)	

**Specific Use Restrictions:** ~~Do not apply until after forage stage (Feekes 6 or Zadok's 31).~~

Do not apply later than Feekes growth stage 10.5 (Zadok's growth stage 59).

~~Do not harvest treated wheat for forage.~~

Do not apply more than 0.40 lb. a.i./A per season of azoxystrobin-containing products.

Do not apply within 14 days of harvest for forage and hay.

Do not apply within 45 days of harvest for grain and straw.

Crop	Target Diseases	Use Rate fl. oz. product/A (lbs. a.i./A)	Remarks
<b>Wild Rice</b>	<p><b>Brown Spot</b> <i>(Bipolaris oryzae or Bipolaris sorokiana)</i></p> <p>Also known as <i>Helminthosporium oryzae</i> and <i>H. sativum</i></p> <p><b>Stem Rot</b> <i>(Nakataea sigmoidea)</i></p>	<p>12.5-15.5 (0.20-0.25)</p>	<p><b>Integrated Pest (Disease) Management:</b> Abound should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and sound water management practices.</p> <p><b>Resistance Management:</b> Follow the resistance management guidelines in the Resistance Management Section. When Abound is being applied for panicle blast on continuous rice acreage (no rotation to other crops), no more than two sequential foliar applications of Abound or other Group 11 fungicides should be made over multiple years before alternating with a fungicide with a different mode of action. Do not make more than two foliar applications of Abound or other Group 11 fungicides per acre per season.</p> <p><b>Application Directions:</b> Abound should be applied prior to disease development. Applications may be made by ground, air, or chemigation. For aerial application, volumes should be 5-10 GPA. An adjuvant may be added at recommended rates.</p> <p>For foliar diseases, apply Abound prior to disease development. Apply during tillering, boot, early heading, or at initial sign of disease. Under heavy disease pressure and conditions favorable for disease development, a second application may be applied.</p>

**Specific Use Restrictions:** Do not treat wild rice fields used for aquaculture of fish and crustaceans.  
 Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat. Applicators should use care in making applications near non-target aquatic habitats.  
 Do not apply more than 0.70 lb. a.i./A per season of azoxystrobin-containing products.  
 Do not apply within 28 days of harvest.  
 Do not allow release of irrigation or flood water for at least 14 days after the last application.

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Manufactured for:  
 Syngenta Crop Protection, Inc.  
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 Greensboro, North Carolina 27419-8300  
[www.syngenta-us.com](http://www.syngenta-us.com)

ABOUND FLOWABLE 1098 Supplemental - bb - 2-8-08

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