

**SUPPLEMENTAL LABELING FOR REGION A: OR and WA  
FOR USE ON CUCURBITS, FRUITING VEGETABLES, ASPARAGUS AND BEANS**

# Sandea

**Herbicide**

Sandea® is a selective herbicide for control of listed weeds including nutsedge

**ACTIVE INGREDIENT:**

* Halosulfuron-methyl .....	% BY WT. 75.0%
<b>OTHER INGREDIENTS</b> .....	<b>25.0%</b>

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

**GENERAL INFORMATION**

Sandea is a dry flowable formulation that selectively controls certain broadleaf weeds and nutsedges in selected crops. Sandea is effective both preemergence and postemergence. Sandea can be absorbed through roots, shoots and foliage and is translocated within the plant.

**WEED RESISTANCE STATEMENT**

Weeds can develop resistance to herbicides. Some weed biotypes have inherent resistance to certain herbicides. Also, repeated use of herbicides with similar modes of action can result in the development of resistance in weed populations. Sandea, a member of the sulfonylurea family, is an ALS enzyme inhibiting herbicide. To minimize the potential for resistance development and/or to control resistant weed biotypes, use a variety of cultural, mechanical, and chemical weed control tactics. Rotate with herbicides having other modes of action (e.g. non-ALS/AHAS materials). Contact your professional crop advisor, local cooperative extension specialist, or Gowan representative for additional information.

**APPLICATION EQUIPMENT AND INSTRUCTIONS**

Sandea can be applied as a broadcast or band application. For band applications, use proportionally less spray mixture based on the area actually sprayed. Consult the "Crop Recommendations" section of this label for the rates and procedures that are appropriate for your growing region.

Apply Sandea in a spray volume that ensures thorough and uniform coverage. Use of 15 or more gallons of water per acre is recommended unless otherwise directed in the "Crop Recommendations" section. Choose nozzles that provide optimum spray distribution and coverage at the appropriate pressure (psi). Thoroughly clean equipment prior to mixing spray solution. Avoid streaking, skips, overlaps, and spray drift during application.

**MIXING INSTRUCTIONS**

Fill the spray tank to about three-fourths of the desired volume and begin agitation. Add the recommended amount of Sandea. Complete the filling process while maintaining agitation. Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source. Add nonionic surfactant and other adjuvants as the last ingredients in the tank. Spray solutions should be applied within 24 hours after mixing.

**ADJUVANTS**

Unless otherwise stated, a **nonionic surfactant (NIS)** is recommended in the spray solution for postemergence applications or for preemergence applications where susceptible weeds are present prior to crop emergence. Use only nonionic-type surfactants that are approved for use on food crops and contain at least 80% active ingredients. Use 0.25 to 0.50 percent nonionic-type surfactant concentration (1 to 2 quarts per 100 gallons of spray solution). Use of Sandea without an adjuvant when weeds are present may result in reduced efficacy. Use of crop oil concentrate (COC) or silicone-based adjuvants will result in reduced yields and are not recommended for postemergence applications over the crop, unless stated otherwise.

**TANK MIXES**

Unless stated in the "Crop Recommendations" section, Tank Mix combinations have not been evaluated and are the user's responsibility. It is recommended that tank mixtures should be evaluated for miscibility and crop safety on a small test area prior to use. Tank mixtures should not be applied when the plants are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels) or other poor growing conditions.

**USE PRECAUTIONS**

- Do not apply Sandea by air.
- Do not apply Sandea using air assisted (air blast) field crop sprayers.
- Do not apply this product through any type of irrigation system.
- Do not apply more than 2.0 ounces of Sandea per acre per 12-month period (includes applications to the crop and to Row Middles/Furrows).
- Excessive amounts of water (greater than 1 inch) from rainfall or sprinkler irrigation soon after a preemergent application may cause crop injury. This potential injury can be enhanced if seeding depth is too shallow.
- Rainfall or irrigation occurring within 4 hours after a postemergence application may reduce effectiveness and can cause crop injury. Rainfast after 4 hours.
- Wait to overhead sprinkler irrigate for 2 to 3 days after a postemergence application.
- Broadcast applications of Sandea herbicide over plastic mulch may result in significant crop injury when spray residue is concentrated in the plant hole by irrigation or rainfall. Properly crowned beds will minimize the potential for this injury.
- Under cool temperature conditions that can delay early seedling emergence or growth, Sandea can cause injury or crop failure. Be especially cautious during first planting of season when this condition is likely to occur.
- Sandea may delay maturity of treated crops.
- Sandea should not be applied if the crop or target weeds are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels) or other poor growing conditions.
- Do not apply Sandea to crops treated with soil applied organophosphate insecticides.
- Do not apply a foliar organophosphate insecticide within 21 days before or 7 days after any Sandea application.
- Avoid spray drift outside of targeted area.
- Sandea may be applied to labeled crops (including cultivars and/or hybrids of these), however the user assumes responsibility for such use. Not all hybrids/varieties have been tested for sensitivity to Sandea. Any plant injury arising from the use of Sandea is the responsibility of the user.
- Thoroughly clean application equipment immediately after Sandea use and prior to spraying another crop.
- Temporary yellowing or stunting of the crop may occur following postemergence applications.

**FOR OPTIMUM RESULTS**

The level of weed control following Sandea application is dependent upon application rate and method, weed species, size and infestation intensity at application time, and growing conditions. Soon after Sandea is applied, growth of susceptible weeds is inhibited, and they are no longer competitive with the crop. Following growth inhibition, the leaves and growing point begin to discolor. Complete control typically occurs within 7-14 days depending on the weed size, species and growing conditions.

- Follow mixing instructions regarding adjuvants.
- For preemergence applications:
  - If susceptible weeds are present prior to crop emergence, use a surfactant as directed in the "Adjuvants" section.
  - Activating soil moisture is necessary for optimum preemergent weed control.
  - Pre-emergent weed control may be improved by incorporating Sandea with irrigation (1/4 – 1/2 inch).
- For postemergence applications
  - Treat young actively growing broadleaf weeds 1-3 inches in height. Larger weeds may not be adequately controlled.
  - Treat actively growing nutsedge plants at the 3-5 leaf stage.
  - Avoid rainfall or overhead irrigation within 4 hours after application. Sandea is rainfast after 4 hours.
  - Wait to overhead sprinkler irrigate for 2 to 3 days after a postemergence application.
  - Avoid applications when weeds are under drought stress, disease, or insect damage.
- Heavy infestations should be treated early before the weeds become too competitive with the crop.
- A timely cultivation may be necessary to control suppressed weeds, weeds that were bigger than the maximum recommended size at application, weeds that emerge after an application, or weed species not on the Sandea label. Wait to cultivate treated soil area for 7-10 days unless specified otherwise.
- Annual weeds may have multiple flushes of seedlings, or treated perennials may sometimes re-grow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of Sandea.

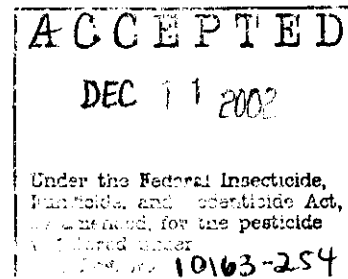
**WEEDS CONTROLLED BY SANDEA**

C = Control, S = Suppression, NA = No Activity

WEED SPECIES	PREEMERGENT ACTIVITY	POSTEMERGENT ACTIVITY
Burcucumber	NA	S
Cocklebur, common	C	C
Corn Spurry	C	C
Fleabane, Philadelphia	NA	C
Galinsoga	C	C
Groundsel, common	C	NA
Jimsonweed	C	NA
Kochia	C	S
Ladysthumb	C	C
Lambsquarter, common	C	NA
Mallow, Venice	NA	C
Milkweed, common	NA	S
Milkweed, honeyvine	NA	S
Morningglory	NA	S*
Mustard, wild	C	C
Nutsedge, Yellow**	S	C
Nutsedge, Purple**	S	C
Pigweed, redroot	C	C
Pigweed, smooth	C	C
Pokeweed, common	NA	C
Purslane	S	NA
Radish, wild	C	C
Ragweed, common	C	C
Ragweed, giant	NA	C
Shepherds purse	C	S
Smartweed, Pennsylvania	C	C
Sunflower, common	C	C
Velvetleaf	C	C

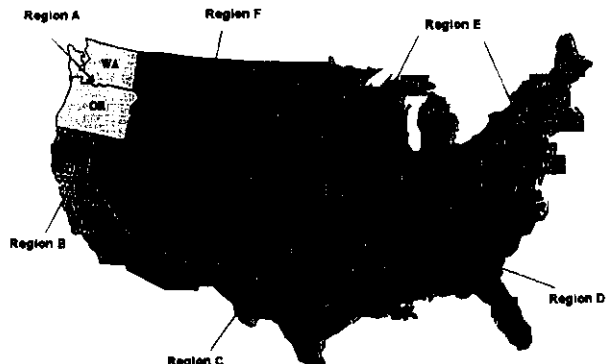
\* Higher rates required for suppression

\*\* Heavy infestations of nutsedge may require sequential applications. An earlier treatment may be required to prevent nutsedge from competing with the crop.



## CROP RECOMMENDATIONS

Consult the map below for your growing region and use the directions appropriate for that region. Uses vary by region so follow the directions for your growing region.



**Region A:** OR and WA

**Region B:** California (except Imperial and Riverside Counties)

**Region C:** CA (Imperial and Riverside Counties only), AZ and NM, OK, TX, AR, CO (East of the Rockies), KS

**Region D:** LA, MS, AL, FL, GA, NC, SC, TN, Puerto Rico

**Region E:** PA, DE, MA, MD, NY, ME, NJ, CT, RI, VA, NH, VT, WV, MI, WI, MN, IA, IL, IN, OH, MO, KY, ND, SD, NE

**Region F:** ID, MT, WY, CO (West of the Rockies), UT

## PREHARVEST INTERVAL

The required days between last application and harvest are given in ( ) after each crop name.

## Region A: OR and WA

CROP	OZ/ACRE	COMMENTS
<b>ASPARAGUS (1)</b>  <b>Region A</b>	SEE TEXT	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Nursery, Transplanted Crowns and Established Beds – Nutsedge Control</b> <ul style="list-style-type: none"> <li>• <b>Single application</b>—Make a single application of 3/4 - 1 1/2 ounces of Sandea to established asparagus beds prior to or during the cutting/harvesting season, when nutsedge is in the 3-5 leaf stage. Applications can be made up to lay-by.</li> <li>• <b>Split application for enhanced control:</b> Make a split application by applying 3/4 to 1 oz product per acre during the cutting/harvesting season when the first flush of nutsedge is in the 3-5 leaf stage, followed by an application of 3/4 to 1 oz product per acre at least 21 days later and up to lay-by to control later flushes of nutsedge. Sandea may be applied post-harvest during the fern stage. Contact with the fern may cause temporary yellowing. Crop injury will be minimized and nutsedge control more effective when applications are made with drop nozzles to direct the spray below the fern to allow for more complete coverage of nutsedge.</li> </ul> <b>Nursery, Transplanted Crowns and Established Beds – Broadleaf Weed Control</b> <ul style="list-style-type: none"> <li>• Apply 1/2 to 1 1/2 ounces of Sandea to established asparagus beds prior to or during the cutting/harvesting season. Applications can be made up to lay-by.</li> </ul>
		<ul style="list-style-type: none"> <li>• Do not apply more than 1 1/2 ounces of Sandea per acre per application.</li> <li>• Do not apply more than 2 ounces of Sandea per acre per crop cycle, not to exceed 2 ounces per acre per 12-month period.</li> <li>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>
<b>CUCUMBERS (30)</b>  <b>Region A</b>	2/3 – 1 1/3	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li>• <b>Preemergence</b> – apply after planting, but prior to cracking. Use the lower rate on lighter textured soils with low organic matter.</li> </ul>
	2/3 – 1	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li>• <b>Postemergence</b> – apply after the crop has reached at least 1-2 true leaves, preferably 2-5 true leaves, but before first female flowers appear.</li> </ul>
	1/2 - 1	<b>Direct-seeded and Transplant:</b> <ul style="list-style-type: none"> <li>• <b>Row Middle/Furrow Applications</b> - Sandea may be applied between rows of direct-seeded or transplanted cucumbers for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</li> </ul>
		<ul style="list-style-type: none"> <li>• A maximum of 2 applications may be made per crop-cycle.</li> <li>• Do not apply more than 1 1/3 ounces Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period (includes applications to the crop and to Row Middles/Furrows).</li> <li>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>

CROP	OZ/ACRE	COMMENTS
CANTALOUPE, HONEYDEW MELONS, CRENSHAW MELONS (57)  Region A	1/2 - 1	Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li><b>Preemergence</b> – apply after planting, but prior to cracking. Use lower range rates on lighter textured soils with low organic matter</li> </ul>
	1/2 - 2/3	Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li><b>Postemergence</b> - apply after the crop has reached the 4 true leaf stage, but before first female flowers appear. Sandea may be applied as an over the top application, as a directed spray application or with crop shields to minimize herbicide contact with the crop.</li> <li><b>Preemergence followed postemergence</b> - To maximize control of nutsedge, it may be necessary to use a postemergence application to those areas where nutsedge has emerged following a preemergence application. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 2/3 oz product per treated acre in these areas.</li> <li><b>Postemergence followed by postemergence</b> – a second postemergence spot application may be necessary. Under these conditions use a spot treatment method treating only those areas where nutsedge has emerged or re-grown. Allow a minimum of 21 days between applications.</li> </ul> <b>Transplanted: Bareground</b> <ul style="list-style-type: none"> <li><b>Post transplant</b> - Sandea may be applied to transplants no sooner than 14 days after transplanting, but before first female flowers appear. Sandea may be applied as an over the top application, a directed spray application or with crop shields to minimize contact of the herbicide with the crop</li> </ul>
	1/2 - 1	<b>Direct-seeded and Transplant:</b> <ul style="list-style-type: none"> <li><b>Row Middle/Furrow Applications</b> - Sandea may be applied between rows of direct-seeded or transplanted melons for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</li> </ul>
		<ul style="list-style-type: none"> <li>A maximum of 2 applications may be made per crop-cycle according to the use directions above.</li> <li>Do not apply more than 1 2/3 ounces Sandea per crop-cycle, not to exceed 2 ounces per acre per 12-month period (includes applications to the crop and to Row Middles/Furrows).</li> <li>Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>
PUMPKINS AND WINTER SQUASH (30)  Region A	1/3 - 2/3	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li><b>Preemergence</b> – apply after planting, but prior to cracking. Use the lower rate on lighter textured soils with low organic matter.</li> <li><b>Postemergence</b> – apply after the crop has reached at least 1-2 true leaves, preferably 2-5 true leaves, but before first female flowers appear.</li> </ul>
	1/2 - 1	<b>Direct-seeded and Transplant:</b> <ul style="list-style-type: none"> <li><b>Row Middle/Furrow Applications</b> - Sandea may be applied between rows of direct-seeded or transplanted pumpkins and winter squash for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</li> </ul>
		<ul style="list-style-type: none"> <li>A maximum of 2 applications may be made per crop-cycle.</li> <li>Do not apply more than 1 1/3 ounces Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period (includes applications to the crop and to Row Middles/Furrows).</li> <li>Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>
OTHER COMMODITIES IN THE CUCURBIT VEGETABLES GROUP <i>Including but not limited to summer squash, gourd, watermelon (See Text for PHI)</i>  Region A	1/2 - 1	<b>Direct-seeded and Transplant:</b> <ul style="list-style-type: none"> <li><b>Row Middle/Furrow Applications</b> - Sandea may be applied between rows of direct-seeded or transplanted cucurbit vegetables for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</li> </ul>
		<ul style="list-style-type: none"> <li>Do not apply within 30 days of harvest for squash/cucumber subgroup.</li> <li>Do not apply within 57 days of harvest for melon subgroup.</li> <li>Do not apply more than 2 ounces Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period.</li> <li>Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>
DRY BEANS (30)  Region A	1/2 - 2/3	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Direct-seeded:</b> <ul style="list-style-type: none"> <li><b>Preemergence</b> – apply after planting but prior to cracking. Use the lower rate on lighter textured soils with low organic matter.</li> <li><b>Postemergence</b> – Apply when plants have 1-2 trifoliate leaves. Avoid contact with crop by applying as a directed spray or with crop shields to minimize. Injury may result if the spray contacts the plant foliage. Can be applied as a spot treatment for control of emergent nutsedge. Apply when nutsedge is in the 3-5 leaf stage.</li> </ul>
		<ul style="list-style-type: none"> <li>Do not apply more than 2/3 ounce Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period.</li> <li>Consult "Use Precautions" and "For Optimum Results" sections for important usage information.</li> </ul>

## Region A cont.: OR and WA

CROP	OZ/ACRE	COMMENTS
<b>SUCCULENT SNAP BEANS (30)</b>  <b>Region A</b>	1/2 - 1	Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. <b>Direct –seeded:</b> <ul style="list-style-type: none"> <li>• <b>Preemergence</b> – apply after planting but prior to cracking. Use the lower rate on lighter textured soils with low organic matter.</li> </ul>
		<ul style="list-style-type: none"> <li>• Do not apply more than 1 ounce Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period.</li> <li>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</li> </ul>
<b>FRUITING VEGETABLES GROUP</b> <i>Including but not limited to eggplant, peppers, tomatoes (30)</i>  <b>Region A</b>	1/2 – 1	<b>Direct-seeded and Transplant:</b> <ul style="list-style-type: none"> <li>• <b>Row Middle/Furrow Applications</b> - Sandea may be applied between rows of direct-seeded or transplanted fruiting vegetables for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</li> </ul>
		<ul style="list-style-type: none"> <li>• Do not apply more than 2 ounces Sandea per acre per crop-cycle, not to exceed 2 ounces per acre per 12-month period.</li> <li>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</li> </ul>