



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Biopesticides and Pollution Prevention Division (7511P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

84846-16

Date of Issuance:

7/2/2021

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

NemBlast

Name and Address of Registrant (include ZIP Code):

FBSciences, Inc.  
153 N. Main St. Ste 100  
Collierville, TN 38017

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention 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 under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her 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 the 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 unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.
2. Make the following labeling change before you release this product for shipment:  
Revise the EPA Registration Number to read, "EPA Reg. No. 84846-16".
3. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Signature of Approving Official:

Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention Division (7511P)  
Office of Pesticide Programs

Date:

7/2/2021

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statements of Formula (CSFs):

- Basic CSF dated 10/09/2020

If you have any questions, please contact Susannah Powell via email at [powell.susannah@epa.gov](mailto:powell.susannah@epa.gov).

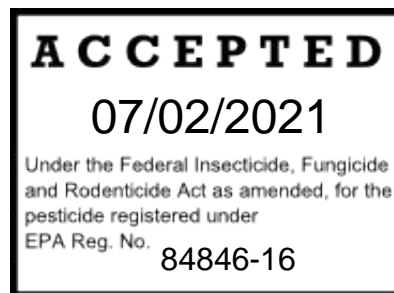
Sincerely,



Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

[ ] [Denotes alternate text]  
 { } {Denotes notes to reviewer}  
 {Front Panel}  
 EPA Master Label:



# NemBlast™

## Nematicide

A liquid product for field or greenhouse use on vegetables, fruits, nuts, vine crops, and field crops to enhance yields and control nematodes.

**ACTIVE INGREDIENT:**

\*Saponins of Quillaja saponaria .....4.3%  
 OTHER INGREDIENTS .....95.7%  
 TOTAL.....100.00%

\*bidesmosidic derivatives of quillajic acid substituted with a trisaccharide at C-3 and an oligosaccharide in C-28

Net Contents: \_\_\_ Gallons / \_\_\_ liters

### KEEP OUT OF REACH OF CHILDREN WARNING

<b>FIRST AID</b>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

## FIRST AID

**HOTLINE NUMBER:** 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 National Product Safety Hotline 1-866-359-5667 day or night, for emergency medical treatment information.

EPA Reg. No. 84846-

EPA Est. No. \_\_\_\_\_

[See [Back Panel] [Side Panel] [Other Panel] for additional Precautionary Statements]

{End Front Panel}

# Precautionary Statements

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear protective eyewear, such as goggles, face shield, or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Protective eyewear (goggles, face shield, or safety glasses)
- Chemical-resistant gloves made of any waterproof material
- Shoes and socks

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

## USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if product gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

For terrestrial uses, 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 wash waters or rinsate.

(For 275 gallon containers: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.)

## 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.

### **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 the label about personal protective equipment and the 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 without protective clothing during the restricted-entry interval (REI) of 24 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:

- Chemical-resistant gloves made of any waterproof material
- Protective eyewear (goggles, face shield, or safety glasses)
- Shoes and socks

**EXCEPTION:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

### **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 persons out of treated area until sprays have dried.

Read the entire label before using NemBlast. Consult your State Agricultural Experimental Station or Extension Service Specialist for additional information on rates of use, application, and any additional requirements or restrictions.

**Mixing:**

Fill tank with water to at least half full, then add recommended dosage of NemBlast directly to the tank and continue filling. Minimize agitation in the tank (shut off paddle agitation if possible) to prevent foaming. To reduce foaming, an agricultural defoamer may be added to the tank mix. However, NemBlast foam is very water soluble, will form a true solution, and should not be a concern for settling in the tank. Apply solution within three hours of mixing.

**Compatibility:**

NemBlast is a water soluble extract with a botanical active ingredient. It is physically compatible with most water based pesticides and liquid fertilizers, providing the pH of the final solution is in a pH range of 3 to 8. Do not apply NemBlast with any other product before testing for physical and chemical compatibility. To determine compatibility, pour the recommended proportions of the products into a suitable container, mix, and wait for 30 minutes. If product remains mixed, it is considered physically compatible.

Not all tank mix combinations have been tested with this product. If compatibility of this product with another product is unknown, test the mixture on a small scale.

Read and carefully observe the most restrictive of the labelling limitations and precautions of all product labels used in the tank mix. This product has properties similar to wetting agents and may enhance activity of some products as a wetting agent.

**Application Methods:** Consider the high solubility of this product when choosing a method of application and timing.

**Ground spray application (for nematodes):** After area to be treated has been irrigated to field capacity, apply with a band or broadcast type sprayer, such as flat-fan or hollow cone nozzle tip system, to the soil surface. After application has been made, it will be necessary to water with either drip, above ground sprinklers, or reduced amount of furrow irrigation. Do not over irrigate following application of this product. Do not use flood irrigation to apply this product into the ground. Over irrigation will move the desired concentration of the product too quickly past the targeted root zone.

For ground sprayer application in orchards or around trees, begin application next to the tree trunk and spray at least 50% of soil area or the area under the canopy of the tree, whichever is greatest.

**Shank injection application (for nematodes):** After area to be treated has been irrigated to field capacity, apply by shank injection to areas where roots are present. Use a sufficient number of injectors to cover area to be treated. If shank application is applied at the root zone, minimal irrigation is required to assure that product covers root zone.

**Chemigation application (for nematodes):** Apply NemBlast through the following types of systems. Do not apply this product through any other type of irrigation system.

- Low volume (ground or underground) drip, drip tape, strip tubing, micro-jet sprinklers, mini-sprinklers;
- Sprinkler including center pivot, lateral move, end tow, side (wheel) roll, solid set, or hand move;
- Furrow.

Check irrigation system and emitters to ensure all systems are operating normally before injecting NemBlast. Lack of effectiveness or crop injury can result from non-uniform distribution of treated water.

If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, chemigation experts, or the Distributor of this product.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. In addition, check local and state regulations regarding pesticide injection into public water systems.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Maintain the system's operating pressure low enough to prevent fogging and/or misting during applications. Inject NemBlast into the irrigation system after the filter(s), or shut off the automatic back flush system in order to avoid back flushing of treated water.

Systems using a gravity flow pesticide dispensing system must meter the product into the water at the head of the field and downstream of the hydraulic discontinuity, such as a drop structure or weir box, to decrease potential for water source contamination from backflow if water flow stops.

Systems using a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.



- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of material that are compatible with the pesticide and capable of being fitted with a system interlock.

For best results, irrigate the soil to field capacity (down to two feet of soil) before pesticide application. For best results, inject NemBlast into the irrigation line in the last quarter of the irrigation time. Continue irrigation until all lines are flushed. Maintain irrigation for enough time to assure this product has penetrated down into the targeted root zone. Do not over irrigate after applying this product. If excessive watering occurs immediately following application, this product may move down past the desired root zone due to its high water solubility. Do not irrigate for at least 24 hours following application of this product. Pest injury to the crop may result from uneven distribution of this product during application.

Do not allow air in the line prior to injecting NemBlast. The product's density will cause swelling of the line due to foam formation and prevent uptake of material. If a pesticide supply tank is used, follow directions listed under "Mixing" above. There generally will be some level of foam at the base of the wetted area until it dissolves (usually within 30 minutes after application, depending on temperature and amount of water following application).

If applied in heavy rainfall areas, avoid application during rain or when rain is forecasted within the next 24 hours that may exceed movement of this product past targeted root zone. Do not apply when wind speed favors drift beyond the areas intended for treatment

### **Application Rates**

NemBlast controls/suppresses nematodes, lessens the damage caused by nematodes, and improves overall plant health. Under good growing conditions, absent of plant parasitic nematodes, NemBlast is beneficial to plant growth and yield. It has been proven to have various plant health benefits, such as enhanced root growth (numbers, girth, length, weight, surface area), increased shoot length and width, more and/or larger fruit at harvest, and improved yield (quantity and quality).

Apply NemBlast to the full irrigated zone. For row crops, the irrigated zone is 30-50% of the row area. For orchards or around trees, apply from tree trunk to drip-line to cover at least 50% of soil area or the area under the canopy of the tree, whichever is greatest. Make single pre-plant applications in the spring just prior to or during root flush and again in the fall after harvest. For best results, make multiple in-season applications in the spring, followed by a single application in the fall after harvest. Use NemBlast in combination with other nematode control products in an IPM program to achieve season-long control of target pests.

CROP	USE RATE	APPLICATION	MAXIMUM APPLICATION RATES
<p><b>Berries:</b>[*] Blackberry (including boysenberry, dewberry, marionberry, olallieberry, youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Raspberry (black and red)</p> <p><b>Citrus:</b> [*] Calamondin, Citrus citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarins, Orange (sour and sweet), Pummelo</p> <p><b>Grapes:</b>[*] (raisin, table, wine)</p> <p><b>Nut Crop:</b> [*] Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Cinquapin, Filbert, Macadamia, Pecan, Walnut (black and English)</p> <p><b>Pome Fruit:</b> [*] Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince</p> <p><b>Stone Fruit:</b> [*] Apricot, Cherry (sweet or tart), Nectarine, Peach, Plum, Plumcot, Prune</p> <p><b>Strawberry</b> [*]</p> <p><b>Subtropical Fruits:</b>[*] Banana, Date, Mango, Papaya, Pineapple, Plantain</p>	<p>Apply 54-64 fluid ounces in 45-90 gallons of water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single pre-season application.</p> <p>For best results, make multiple in-season applications at a rate of 16 fluid ounces in 15-30 gallons water per acre (to achieve a concentration of 5,000- 10,000 ppm) every 21 days for up to 18 weeks.</p>	<p>Apply NemBlast to the full irrigated zone. Apply from tree trunk to drip-line to cover at least 50% of soil area or the area under the canopy of the tree, whichever is greatest.</p>	<p>Apply up to the day of harvest (0 day PHI). Do not apply more than 150 fluid ounces per acre (0.45 lb ai/ac) per season.</p>
<p><b>Cole Crops:</b>[*] Broccoli (including Chinese and raab), Brussels sprouts, Cabbage (including Chinese), Cauliflower, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens</p> <p><b>Cucurbit Vegetables:</b> [*] Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Edible gourd, Momordica spp. (including balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (including cantaloupe, casaba, crenshaw, golden pershaw, honeydew, honey balls, mango, Persian, pineapple, Santa Claus, and snake), Pumpkin, Summer squash (including crookneck, scallop, straightneck, vegetable marrow and zucchini), Watermelon, Winter squash (including acorn, butternut, calabaza, hubbard, and spaghetti)</p> <p><b>Fruiting Vegetables:</b>[*] Eggplant, Groundcherry, Pepino, Pepper (including bell, chili, cooking, pimento and sweet), Tomatillo, Tomato</p>	<p>Apply 54-64 fluid ounces in 45-90 gallons of water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single pre-season application.</p> <p>For best results, make multiple in-season applications at a rate of 16 fluid ounces in 15-30 gallons water per acre (to achieve a concentration of 5,000- 10,000 ppm) every 21 days for up to 18 weeks.</p>	<p>Apply NemBlast to the full irrigated zone. For row crops, the irrigated zone is 30-50% of the row area. Apply 1-7 days preplant to the planting zone. Apply centered on the top of the row on pre-wetted soil. Follow with water to assure penetration of the product into the root zone.</p>	<p>Apply up to the day of harvest (0 day PHI). Do not apply more than 150 fluid ounces per acre (0.45 lb ai/ac) per season.</p>

<p><b>Leafy Vegetables:</b> [*] Amaranth, Arugula, Cardoon, Celery (including Chinese celery), Celtuce, Chervil, Edible chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach (including New Zealand and vine), Swiss chard</p>			
<p><b>Bulb Vegetable:</b> [*] Garlic, Leek, Onion (including dry bulb, green and Welch), Shallot</p> <p><b>Root and Tuber Vegetables:</b> [*] Arrachacha, Arrowroot, Artichoke, Beet (garden and sugar), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote, Chervil, Chicory, Chufa, Dasheen, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam (bean and true)</p>	<p>Apply 54-64 fluid ounces in 45-90 gallons of water per acre (to achieve a concentration of 5,000-10,000 ppm) in a single pre-season application.</p> <p>For best results, make multiple in-season applications at a rate of 16 fluid ounces in 15-30 gallons water per acre (to achieve a concentration of 5,000- 10,000 ppm) every 21 days for up to 18 weeks.</p>	<p>Apply NemBlast to the full irrigated zone. Apply prior to planting to row area to be planted. Apply centered on the top of the row on pre-wetted soil. Follow with water to assure penetration of the product into the root zone.</p>	<p>Apply up to the day of harvest (0 day PHI). Do not apply more than 150 fluid ounces per acre (0.45 lb ai/ac) per season.</p>

[\*Not for Use in California]

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal:

**Storage:** Keep pesticide in original container. Keep container tightly closed when not in use. Store product above 40 °F. Do not store in aluminum, fiberglass, copper, brass, zinc, or galvanized containers. Protect from excessive heat. Store in a cool dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Equipment cleaning:** clean lines and reservoirs of equipment by flushing thoroughly with water. Rinse water may be used for dilution of NemBlast as above.

**Container Disposal:** Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. For containers less than five gallons, triple rinse as follows: Empty remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. For containers greater than five gallons, triple rinse as follows: Empty remaining contents into application equipment or mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip the container on its side and roll it back and forth, ensuring at least one complete

revolution, for 30 seconds. Stand container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or mix tank or store rinsate for later use or disposal. Repeat the procedure two more times. Then, offer for recycling or reconditioning, or puncture and/or dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

#### **LIMITED WARRANTY AND DISCLAIMER**

The directions for use of this product are believed to be adequate and must be followed carefully. The use of this product is beyond the control of the manufacturer, and, therefore, to the extent consistent with applicable law, no warranty, representation, or guarantee of any kind, expressed or implied, is made as to the effects of such use or any results obtained if not used in accordance with printed directions and established safe practice or if unusual or extraordinary weather conditions occur. To the extent consistent with applicable law, the buyer's exclusive remedy and manufacturer's or seller's exclusive liability in tort or otherwise, shall be limited, at the manufacturer's option, to replacement of, or the repayment of the purchase price for, the quantity of product with respect to which damages are claimed.

PATENT <http://www.FBSciencesPatents.com> and other patents pending.

FBSciences, Inc.  
153 N. Main Street Ste. 100  
Collierville, TN 38017-2691  
United States  
901-221-1200

Batch Code/Lot Number\_\_\_\_\_

Revised 07.02.2021

[Optional Label Claims:

- Biopesticide Active Ingredient
- Botanical Active Ingredient
- A Nematicide
- For control/suppression of plant parasitic nematodes in vineyards, orchards, vegetable crops, and field crops.
- Controls and suppresses nematodes
- Lessens the damage caused by nematodes
- For use on cucurbit, fruiting, and root/tuber vegetable crops such as: melons, carrots, peppers, tomatoes, eggplant, potatoes, broccoli, squash, and beets.
- Provides various plant health benefits, such as enhanced root growth (numbers, girth, length, weight, surface area), increased shoot length and width, more and/or larger fruit at harvest, and improved yield (quantity and quality).
- Restricted-entry interval (REI) of 24 hours
- No phytotoxicity
- For conventional farming