

Double Nickel 55[®]

BIOFUNGICIDE

Water Dispersible Granular Biofungicide



FOR ORGANIC PRODUCTION



Active Ingredient:

Bacillus amyloliquefaciens strain D747* 25.0%

Other Ingredients 75.0%

Total 100.0%

*Contains a minimum of 5×10^{10} colony-forming units (cfu) per gram of product

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

IF IN EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Hotline Number

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Hot Line No.: 1-800-255-3924 for emergency information.

MANUFACTURED BY:

Certis USA LLC
9145 Guilford Road, Suite 175
Columbia, MD 21046

CERTIS

ESL20201029
Ver20210811

EPA Reg. No. 70051-108

EPA Est. No. 70051-CA-1

Lot Number:

Net Weight:

This is a Specimen Label. It may not reflect the most-recent approved label for use in your state. Always refer to the label on the product packaging for approved use instructions. Please contact your Certis sales representative for more information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH approved particulate filter with any N, R, P filter with NIOSH approval number prefix TC-84A; or a NIOSH- approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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

Engineering Controls:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR §170.607 (d), (e), and (f), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticides get 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

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply when weather conditions favor drift or runoff from treated areas.

PRODUCT INFORMATION

Double Nickel 55® is a broad-spectrum preventative biofungicide for control or suppression of fungal and bacterial plant diseases. The active ingredient of Double Nickel 55® is a strain (D747) of the beneficial rhizobacterium *Bacillus amyloliquefaciens*, which colonizes roots, leaves, and other plant surfaces. D747 rapidly colonizes plant root hairs,

leaves, and other surfaces, preventing establishment of disease-causing fungi and bacteria.

Double Nickel 55® can be applied alone or in combination and/or rotation with chemical fungicides as a tool for integrated disease management in agricultural crops, in accordance with the most restrictive of those label limitations and precautions. Double Nickel 55® offers a valuable tool for management of resistance to chemical fungicides through its multiple and unique modes of action.

Double Nickel 55® can be applied up to and including the day of harvest.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal Agency responsible for pesticide regulation. 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.

AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is: coveralls, waterproof gloves, shoes plus 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 areas until sprays have dried.

MIXING AND HANDLING INSTRUCTIONS

Mix the required amount of Double Nickel 55® in cool water with sufficient agitation to maintain a uniform suspension in the spray or mixing tank. Tank should be cleaned prior to use. Do not use highly alkaline or highly acidic water to mix sprays. Use a buffering

agent if necessary to maintain neutrality (pH 6 to 8) of water in the tank. Maintain agitation during application. Apply immediately after mixing; do not allow spray mix to stand overnight.

APPLICATION METHODS

Ground: Double Nickel 55® can be applied in most commonly-used ground application equipment, such as tractor-mounted boom, airblast, high clearance, hose-end, backpack, and other pressurized sprayers; hose-end or hand-held sprayers; foggers or mist blowers; water wheel and other drench applicators; and shank or other soil injection method.

Aerial: Double Nickel 55® can be applied by fixed or rotary winged aircraft in a minimum of 3 gallons of water per acre. Standard precautions should be taken to minimize spray drift.

Chemigation: Double Nickel 55® can be applied through drip (trickle) and sprinkler type irrigation equipment. Refer to the section entitled “Chemigation Instructions” for detailed instructions.

Agricultural crops

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Vegetables and Melons		
Brassica Leafy Vegetables such as broccoli, cabbage, cauliflower, brussel sprouts, kohlrabi, mustard and collard greens, kale, bok choy, other cole crops (including those grown for seed production), and related crops.	Pin rot complex (<i>Alternaria/Xanthomonas</i>)† Leaf spots (<i>Alternaria</i> spp., <i>Xanthomonas</i> spp.) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe polygoni</i>)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Bulb Vegetables such as onions, garlic, shallots, and others (including those grown for seed production)	<i>Botrytis</i> spp. (neck rot, leaf blight) Purple blotch (<i>Alternaria</i> spp.) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe</i> spp.) Rust (<i>Puccinia pori</i>)† White rot (<i>Sclerotium cepivorum</i>)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Cucurbit Vegetables such as cucumber, squash (all types), cantaloupe, muskmelon, watermelon, and other melons (including those grown for seed production).	Powdery mildew (<i>Erysiphe</i> and <i>Sphaerotheca</i> spp.) Downy mildew (<i>Pseudoperonospora</i> spp.) Gummy stem blight (<i>Didymella bryoniae</i> and <i>Phoma cucurbitacearum</i>)	
	Vine decline (<i>Monosporascus cannonballus</i>)** Charcoal rot (<i>Macrophomina phaseoli</i>)** “Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for “Soil application.” ** Not for use in California. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Fruiting Vegetables such as tomato, pepper, eggplant, tomatillo, okra, and others (including those grown for seed production).	Bacterial spot (<i>Xanthomonas</i> spp.)†‡ Bacterial speck (<i>Pseudomonas syringae</i> pv. <i>tomato</i>)†‡ Gray mold (<i>Botrytis cinerea</i>) Powdery mildew† (<i>Leveillula</i> , <i>Oidiopsis</i> , <i>Erysiphe</i> , and <i>Sphaerotheca</i> spp.) Early blight (<i>Alternaria solani</i>)† Late blight (<i>Phytophthora infestans</i>)† “Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp. Southern blight (<i>Sclerotium rolfsii</i>)†**	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
	Downy mildew (<i>Bremia lactucae</i> , <i>Peronospora</i> spp.)† Powdery mildew (<i>Golovinomyces</i> (<i>Erysiphe</i>) <i>cichoracearum</i>)† Bacterial blights Leaf spots (<i>Cercospora</i> spp.) <i>Botrytis</i> spp. Rusts (<i>Puccinia</i> spp.)	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.
Leafy Vegetables (Except Brassica Vegetables) such as head and leaf lettuce, celery, spinach, radicchio, arugula, watercress, and others (including leafy <i>Brassica</i> vegetables such as mustard and collard greens, kale, bok choy, and related crops), including those grown for seed production.	Head and leaf drop (<i>Sclerotinia</i> spp.) Pink rot (<i>Sclerotinia sclerotiorum</i>) White mold (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp. Bottom rot (<i>Rhizoctonia solani</i>)	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Microsphaera diffusa</i>) Rusts†, including <i>Uromyces appendiculatus</i> , <i>Puccinia</i> spp., and Asian soybean rust (<i>Phayospora pachyrhizi</i>)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Legume Vegetables (Succulent or Dried) succulent and dried beans and peas such as green, snap, shell, and Lima bean, garbanzo bean, chickpea, soybean, dry bean, pea, split pea, lentil, and other legumes, including those grown for seed production.	White mold (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Root, Tuber, and Corm Vegetables such as potato, sweet potato, carrot, cassava, beet, ginger, radish, horseradish, ginseng, turnip, and other root, tuber and corm crops (including those grown for seed production).	Black root/crown rot (<i>Alternaria</i> spp.) Bacterial leaf blight (<i>Xanthomonas campestris</i>) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe</i> spp.) Gray mold (<i>Botrytis</i> spp.) Black leg /bacterial soft rot (<i>Erwinia carotovora</i>)** Early blight (<i>Alternaria solani</i>)† Late blight (<i>Phytophthora infestans</i>)†	** Not for use in California. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	White mold (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	Black scurf (<i>Rhizoctonia solani</i>) Cavity spot (<i>Pythium</i> spp.) "Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. For treatment of horseradish roots immediately before transplanting: immerse bare roots (individually or in bunches) for 10 seconds in a suspension of 2-4 ounces of Double Nickel 55® per gallon of water.
Other Vegetables such as asparagus, peanut	White mold (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	<i>Botrytis</i> spp. Rusts (<i>Puccinia</i> spp.) Leaf spots (<i>Cercospora</i> and <i>Cercosporidium</i> spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	"Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Tree Fruits and Nuts		
Citrus Fruit such as orange, lemon, lime, grapefruit, tangerine (mandarin), tangelo, pummelo, and other citrus	Greasy spot (<i>Mycosphaerella citri</i>)†	Apply at first new foliar flush and repeat with each new flush. Tank mix with spray oil or copper based fungicide at labeled rates. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Citrus canker (<i>Xanthomonas campestris</i> pv. <i>citri</i>)‡	‡Tank mix or rotate with copper-based fungicides at label rates for improved control.
	Scab (<i>Elsinoe fawcetti</i>)†	Start applications at first new foliage flush and repeat at petal fall and when fruit are ½ inch in diameter. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Postbloom fruit drop (<i>Colletotrichum acutatum</i>)† <i>Alternaria</i> leaf spot (<i>Alternaria alternata</i>) Melanose (<i>Diaporthe citri</i>)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Pome Fruits such as apple, pear, crabapple, quince, and others	Powdery mildew (<i>Podosphaera leucotricha</i>)	Make first application at or before tight cluster if conditions favor disease development. Repeat at 7-10 day intervals through the second cover spray or longer on susceptible varieties or if environmental conditions favor rapid disease development.
	Flyspeck (<i>Zygophiala jamaicensis</i>)** Sooty blotch disease complex** Brooks spot (<i>Mycosphaerella pomi</i>)** Bot rot/white rot (<i>Botryosphaeria dothidea</i>)** Bitter rot (<i>Colletotrichum</i> spp.) Cedar apple rust (<i>Gymnosporangium juniperi-virginianae</i>)**	Begin applications before bloom when environmental conditions favor disease development, repeating at 7 to 14 day intervals or as needed. Control may be enhanced by addition of a surfactant to improve spray coverage. Use only surfactants known to be safe for use on the crop and for which such use is allowed. ** Not for use in California.
	Fire blight (<i>Erwinia amylovora</i>)†	Rotate with antibiotics registered for fire blight control for improved performance. Begin applications at 1-5% open blossoms and repeat every 3-7 days as necessary until petal fall, when intervals can be increased to 7 days. Double Nickel 55® can also be used in summer “cover spray” applications to control the shoot blight phase of fire blight and summer diseases. Can be mixed with copper fungicides to improve control. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Scab (<i>Venturia</i> spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Stone Fruits such as apricot, cherry, nectarine, peach, plum, prune, prunus hybrids (such as pluot, aprium, plumcot) and others	Powdery mildew (<i>Sphaerotheca</i> and <i>Podosphaera</i> spp.)†	Make first application at popcorn stage and repeat every 7 days. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Bacterial canker (<i>Pseudomonas</i> spp.) Peach leaf curl (<i>Taphrina deformans</i>)	

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
	Brown rot blossom blight (<i>Monilinia laxa</i>)	Start applying at early bloom stage and repeat every 7 days through petal fall.
	Brown rot (<i>Monilinia fructicola</i>)†	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Gray mold (<i>Botrytis cinerea</i>)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
	Bacterial leaf spot (<i>Xanthomonas arbuticola</i> pv. <i>pruni</i>)‡ Rusty spot (<i>Podosphaera leucotricha</i>)‡	‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Tree Nuts such as almond, pistachio, pecan, walnut, filbert, hazelnut, chestnut, macadamia, and other tree nuts.	Walnut blight (<i>Xanthomonas campestris</i>)	Begin applications at or before pistillate bloom, repeating every 7-10 days. Apply before rainfall if possible and tank mix or rotate with a copper-based bactericide registered for such use for improved control.
	Anthracnose (<i>Colletotrichum acutatum</i>)† Shot hole (<i>Wilsonomyces carpophilus</i>)† Brown rot (<i>Monilinia</i> spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Bacterial canker (<i>Pseudomonas syringae</i>)	
	Pecan scab (<i>Cladosporium caryigenum</i>)†‡**	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ‡ Tank mix or rotate with copper-based fungicides at label rates for improved control. ** Not for use in California.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Pomegranates	Leaf and fruit spots (<i>Cercospora</i> , <i>Gloeosporium</i> and <i>Pestalotia</i> spp.)‡	‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
	Fruit rots (<i>Alternaria</i> , <i>Botrytis</i> , and other spp.)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
	Powdery mildew (<i>Sphaerotheca pannosa</i>)	
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

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Other Fruits		
Strawberry	Powdery mildew (<i>Sphaerotheca macularis</i> , <i>Erysiphe</i> spp.)†	Start applications at or just before flowering and repeat every 7-10 days as needed through harvest. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Gray mold (<i>Botrytis cinerea</i>)†	Begin applications at or before pistillate bloom, repeating every 7-10 days. Apply before rainfall if possible and tank mix or rotate with a copper-based bactericide registered for such use for improved control. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Anthraxnose (<i>Colletotrichum acutatum</i>)	
	Angular leaf spot (<i>Xanthomonas fragariae</i>)‡	‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
	“Damping off” and root or crown diseases caused by <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Pythium</i> , <i>Phytophthora</i> , and/or <i>Verticillium</i> † spp. Charcoal rot (<i>Macrophomina phaseolina</i>)**	See instructions for “Soil application” and “Root dip.” For treatment of roots immediately before transplanting: immerse bare roots (individually or in bunches) for 10 seconds in a suspension of 2-4 ounces of Double Nickel 55® per gallon of water. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.
Berries such as blueberry, blackberry, raspberry, loganberry, huckleberry, kiwifruit, gooseberry, elderberry, cranberry (non-flooded fields), currant, and other berries. Excludes strawberry.	Mummy berry (<i>Monilinia vaccinii-corymbosi</i>)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Botrytis blight (<i>Botrytis cinerea</i>) Sclerotinia (<i>Sclerotinia sclerotiorum</i>)	
	Bacterial canker (<i>Pseudomonas</i> spp.)	Apply before fall rains and again during dormancy before spring growth.
	Anthraxnose fruit rot (<i>Colletotrichum acutatum</i>)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
Grapes such as wine grapes, table grapes, and raisins	Powdery mildew (<i>Erysiphe</i> (formerly <i>Uncinula</i>) <i>necator</i>)	Start applications when new shoots are ½ to 1½ inches long. Repeat at 3-5 inches, 8-10 inches, and then at 7-10 day intervals until disease conditions no longer exist.
	Gray mold (<i>Botrytis cinerea</i>) Sour rot complex	Apply at bloom, before bunch closure, at veraison, and before harvest.
	Downy mildew (<i>Plasmopara viticola</i>)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Phomopsis (<i>Phomopsis viticola</i>)	Apply when shoots are ½ to 1 inch long and again when 6-8 inches long.
	Eutypa (<i>Eutypa lata</i>)	Mix 1 ounce Double Nickel 55® per gallon of water and apply to pruning wounds.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. For suppression of <i>Phytophthora</i> and <i>Fusarium</i> root rots: Begin applications in early spring, timed for root flush and early shoot growth. Continue applications on a 4-6 week reapplication interval with a final application timed for fall root flush. Apply via drip (elevated, buried or ground-lay), banded drench, microsprinkler, or other common chemigation techniques.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Tropical and Subtropical Fruit, Inedible Peel such as avocado, mango, papaya, pineapple, banana, plantain, and others. Excludes pomegranate.	Anthracnose (<i>Colletotrichum</i> spp.) Scab (<i>Sphaceloma perseae</i>) Bacterial canker (<i>Xanthomonas campestris</i>)	For avocado and mango: Apply at budbreak and repeat on 14-21 day interval as needed through harvest. For papaya and pineapple: Apply at flowering and repeat on 14-21 day interval as needed through harvest.
	Sigatoka (<i>Mycosphaerella fijiensis</i>)	Apply at first appearance of leaves and repeat at 7-21 day intervals as needed, in sufficient water to obtain thorough coverage of foliage. Tank mix with spray oil or other registered fungicides for improved control.
	Root and collar rots† caused by <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Armillaria</i>	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Other Crops		
Herbs and Spices such as basil, thyme, coriander, dill, cilantro, parsley, mint, and others (including those grown for seed production).	Powdery mildews (<i>Oidium</i> spp. and others) Bacterial diseases (<i>Erwinia</i> , <i>Xanthomonas</i> , and <i>Pseudomonas</i> spp.) Rusts (<i>Puccinia</i> spp. and others)	
	Downy mildews (<i>Peronospora</i> spp. and others)† Leaf spots (<i>Alternaria</i> , <i>Septoria</i> , <i>Colletotrichum</i> , and <i>Cercospora</i> spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	“Damping off” and root or crown diseases caused by <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Pythium</i> , <i>Phytophthora</i> , and/or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Coffee	Coffee berry disease (<i>Colletotrichum coffeanum</i>)‡ Coffee rust (<i>Hemileia vastatrix</i>)†**	‡ Tank mix or rotate with copper-based fungicides at label rates for improved control. ** Not for use in California.
	Anthrachnose (<i>Colletotrichum</i> spp.) <i>Botrytis</i> flower blight <i>Cercospora</i> leaf spot** and berry blotch**	** Not for use in California.
	“Damping off” and root or crown diseases caused by <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Pythium</i> , <i>Phytophthora</i> , and/or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Tobacco	Angular leaf spot (<i>Pseudomonas</i> spp.) Anthrachnose (<i>Colletotrichum</i> and <i>Glomerella</i> spp.) Blue mold or downy mildew (<i>Peronospora</i> spp.)† Brown spot (<i>Alternaria</i>) Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Erysiphe cichoracearum</i>) Target spot (<i>Rhizoctonia solani</i>)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	Barn spot/ frog-eye leaf spot (<i>Cercospora nicotianae</i>)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
	Collar rot (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Olpidium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp. Charcoal rot (<i>Macrophomina phaseolina</i>) Black root rot (<i>Thielaviopsis basicola</i>) Black shank (<i>Phytophthora</i> spp.)† Southern blight/southern stem rot (<i>Sclerotium rolfsii</i>)†	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Corn including field corn, sweet corn, popcorn, silage corn, seed corn, and other corn crops.	<i>Botrytis</i> spp. Rusts (<i>Puccinia</i> spp.) Southern leaf blight (<i>Bipolaris maydis</i> / <i>Cochliobolus heterostrophus</i> / <i>Helminthosporium maydis</i>)	
	Leaf spots (<i>Cercospora</i> and <i>Cercosporidium</i> spp.)† Common rust (<i>Puccinia sorghi</i>)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
	White mold (<i>Sclerotinia sclerotiorum</i>)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions promoting disease persist.
	“Damping off,” seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , or <i>Verticillium</i> † spp.	See instructions for “Soil application.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Cereal Grains** such as barley, millet, oats, rice, rye, sorghum, triticale, wheat, and other cereal grain crops (including those grown for seed).	Powdery mildew (<i>Erysiphe graminis</i>) Rust (<i>Puccinia</i> spp.)† Rice blast (<i>Pyricularia oryzae</i>) Sheath spot/blight (<i>Rhizoctonia</i> and <i>Thanatephorus</i> spp.) Smut (<i>Tilletia barclayana</i>) Bacterial blight/streak (<i>Xanthomonas</i> spp.) Stem rots (<i>Magnaporthe</i> and <i>Sclerotium</i> spp.) <i>Cercospora</i> leaf spot Brown rot/leaf spots/smuts (<i>Ceratobasidium</i> , <i>Cochliobolus</i> , <i>Dreschlera</i> , and <i>Entyloma</i> spp.)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.
Oilseed Crops** such as canola, castor, coconut, cotton, flax, oil palm, olive, peanut, rapeseed, safflower, sesame, sunflower, soybeans, and other oilseed crops, including those grown for seed production.	White mold/Stem rot (<i>Sclerotinia sclerotiorum</i>) Rusts†, including <i>Uromyces appendiculatus</i> , <i>Puccinia</i> spp., and Asian soybean rust (<i>Phyospora pachyrhizi</i>) Bacterial Speck (<i>Pseudomonas syringae</i> pv. <i>glycinea</i>) Bacterial Pustule (<i>Xanthomonas</i> spp.) Brown Spot (<i>Septoria glycines</i>) <i>Cercospora</i> Leaf Spot Pod and Stem Blights (<i>Diaporthe</i> and <i>Phomopsis</i> spp.) Downy Mildew (<i>Peronospora mansherica</i>)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use ** Not for use in California.
Mint	Rust (<i>Puccinia</i> spp.)	
Hops	Powdery mildew (<i>Sphaerotheca macularis</i>)	Mix 0.5-1 lb. Double Nickel 55® per 100 gallons of water and apply in minimum of 20 gallons per acre from emergence to training, 50 gallons per acre from training to wire, and 100 gallons per acre from wire touch through harvest.
Sugar Beets** including crops grown for seed production	Leaf spots (<i>Cercospora</i> and <i>Ramularia</i> spp.) Powdery mildew (<i>Erysiphe</i> spp.) Rust (<i>Uromyces betae</i>)	** Not for use in California.

CROPS	DISEASES/PATHOGENS	ADDITIONAL INFORMATION
Hemp	Anthracnose (<i>Colletotrichum</i> spp.) Brown blight (<i>Alternaria alternata</i>) Brown leaf spot and stem canker (<i>Ascochyta</i> spp.) Gray mold (<i>Botrytis cinerea</i>) Hemp leaf spot (<i>Bipolaris</i> sp.) Powdery mildew (<i>Leveillula</i> and <i>Sphaerotheca</i> spp.) White leaf spot (<i>Phomopsis ganjae</i>) Yellow leaf spot (<i>Septoria</i> spp.) Olive leaf spot (<i>Cercospora cannabidis</i>) Stemphylium leaf and stem spot (<i>Stemphylium botryosum</i>) Bacterial blight (<i>Pseudomonas cannabina</i>) Xanthomonas leaf spot (<i>Xanthomonas campestris</i>)	
	"Damping off," seedling blights, and root or crown diseases caused by <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Phytophthora</i> , <i>Botrytis</i> , <i>Verticillium</i> spp. Charcoal rot (<i>Macrophomina phaseolina</i>) Fusarium wilt, foot rot, stem canker (<i>Fusarium</i> spp.) Hemp canker (<i>Sclerotinia sclerotiorum</i>) Southern blight/southern stem blight (<i>Sclerotium rolfsii</i>) Verticillium wilt (<i>Verticillium</i> spp.)	See instructions "Soil application."

APPLICATION INSTRUCTIONS:

For root diseases: Apply **0.5 to 1 pound** of Double Nickel 55® per acre as a banded soil spray or drench, or as chemigated injection via microsprinkler, drip (elevated, buried or ground-lay) or other irrigation systems. Apply in sufficient water or irrigate immediately after application to move the product to the root zone. Begin applications in early spring, timed for root flush and early shoot growth. Continue applications at 4-6 week intervals through fall root flush.

For collar rots: Apply as drench or spray at the base of the trunk, covering the soil contact zone.

Foliar application: *For control of diseases on foliage, flowers, fruit, or other above-ground parts of plants:* Mix Double Nickel 55® in water and apply as a spray at a rate of **0.25 to 3 pounds per acre** in sufficient water to achieve thorough coverage of the crop canopy with minimal runoff. Begin applications at crop emergence, transplanting, or when conditions are conducive to development of disease. Apply every 7 to 10 days as needed, for as long as conditions favor disease development. Lower rates (0.25 to 1 pound per acre) may be applied under light disease pressure, to smaller (e.g. newly-emerged) plants, or when Double Nickel 55® is used in a tank mix with other fungicides whose labels allow such use. Under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, use higher label rates (1 to 3 pounds per acre), apply more frequently (every 3 to 7 days), and mix or rotate Double Nickel 55® with other fungicides for improved performance.

Soil application: *For control of soil-borne diseases infecting seeds, seedlings, roots, crown, stems, or other plant parts below ground or in contact with soil:* Apply Double Nickel 55® at **0.125 to 1 pound per acre**. Mix the required amount in sufficient water to apply by one of the following methods:

- Soil drench at transplanting, using a “water wheel” injector, spray nozzles/hoses, or other method to drench each root ball and/or planting hole.
- Soil or seedline drench, or banded spray (in-furrow) at planting. See the section on “Banded (in-furrow) application” below for additional instructions.

Follow-up (post-planting) preventative applications can be made every 2-4 weeks by one or more of the following methods, if needed:

- Drip (trickle) or any type of sprinkler irrigation, any time after planting or transplanting. See Chemigation Instructions for additional information.
- Spray directly onto the soil surface and/or lower plant parts. If targeting root disease, follow immediately with sufficient overhead sprinkler irrigation to move Double Nickel 55® to the root zone.
- Injection directly into the rooting zone using shanks or similar equipment.

Lower rates (0.125 to 0.5 pounds per acre) may be applied under light disease pressure, to smaller plants, or when Double Nickel 55® is used in a tank mix with other fungicides whose labels allow such use. Under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, use higher label rates (0.5 to 1 pound per acre), apply more frequently (every 2 weeks), and mix or rotate Double Nickel 55® with other fungicides for improved performance.

Banded (in-furrow) application: Use the table below to determine the correct application rate of Double Nickel 55® per 1,000 row feet, based on row spacing and desired rate per acre. Mix the required amount of Double Nickel 55® in water and apply as banded spray (4" to 6" wide) or seedline drench centered over the planting furrow. Apply directly over seeds in the furrow just before they are covered with soil. The volume of water required per acre or per 1,000 row feet will depend on the application equipment used. Consult your local cooperative extension service if you need assistance calibrating band spraying equipment.

Rates for banded (in-furrow) application: Find desired application rate in the left column. Read across that line to the correct row spacing indicated at the top to find the number of ounces (dry) per 1,000 row feet that will provide the desired application rate per acre. To convert to **level teaspoons**, multiply the number of ounces by 8.2. For **level tablespoons**, multiply the number of ounces by 2.75.

Rate/acre (pounds)	Space between rows (inches)														
	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
0.25	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
0.5	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6
0.75	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9
1.0	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2
1.25	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.5
1.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8
1.75	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
2.0	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.4
2.25	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8
2.5	0.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	2.9	3.1
2.75	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.5	2.7	2.9	3.0	3.2	3.4
3.0	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.7

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a dry area inaccessible to children. Store in original containers only. Keep container closed when not in use.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of onsite or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CHEMIGATION INSTRUCTIONS

General Information:

1. Apply this product only through drip (trickle) irrigation (including micro-irrigation through spaghetti tubes or individual tubes) or sprinkler irrigation (including impact or microsprinklers, overhead boom, solid set, lateral move, end tow, side-roll, center pivot, or hand move, including mist-type systems); or with hand-held calibrated irrigation equipment (such as a hand-held wand with injector). Do not apply this product through any other type of irrigation system.
2. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.
3. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.
4. 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.
5. 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.

Public water system chemigation

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

1. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
3. The pesticide injection pipeline must 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
5. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
6. Do not apply when wind speed favors drift beyond the area intended for treatment.

7. Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and injector system and flush with clean water before use. Failure to provide a clean tank, free of scale or residues may reduce effectiveness of this product.
8. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Application should be continuous in sufficient water to apply the specified rate evenly to the entire treated area.

Drip (Trickle) and Micro-irrigation Chemigation:

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.

Sprinkler Chemigation:

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

WARRANTY

Certis USA LLC warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purpose referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the disease problem, condition of the crop, incompatibility with other influencing factors in the use of this product are beyond the control of the seller. To the extent consistent with applicable law, buyer assumes all risks of use, storage, or handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.