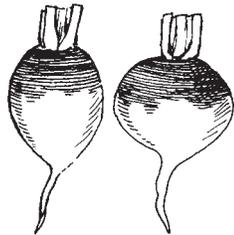


Greens Production for Farmers' Markets



Greens are a staple of the Mississippi diet and farming system. Greens are cool-season crops and are well adapted to fall and winter production in much of Mississippi. Growers must know the preferences of their local and distant buyers. Some prefer the tang of mustard or turnip greens. Others prefer the richer flavor of collards. Kale is less in demand, but it can be profitably produced once a market is found. Distant buyers may use the term “pot herb” to distinguish these from salad greens.

Site Selection

Greens do well on almost any soil as long as the soil is well drained or can be shaped to provide surface drainage. The best soils are sandy loam or silt loam soils with good internal drainage. Deep, very sandy soil will require an application of boron to prevent boron deficiency in the crop. Avoid fields that have herbicide residues from previous crops and fields that were planted to greens, cabbage, broccoli, or other crucifers the previous season.

Fertilizers

A soil test is necessary to determine the amount of fertilizer to add. Greens are short-season, shallow-rooted crops and need high levels of nutrients to produce well. The soil pH should be above 6.0. Lime the soil if the pH is below this level. Greens do not tolerate acid soils very well. Again, add 2 pounds of boron per acre to very sandy soils. Boron deficiency causes the plants to grow slowly and will decrease yield levels. Be careful with boron applications because too much boron is toxic and can hurt more than not having enough. Greens are often top- or side-dressed with 30 to 40 pounds of nitrogen when the plants are 2 to 3 inches tall.

Bed Preparation

On very well drained soils, preparing the soil only requires pulverizing the soil well and incorporating the lime and fertilizer. On less ideal soils, beds are raised to fit the equipment being used. One popular method is to prepare beds 5 feet wide and sow four rows per bed. Another method is to prepare a standard 3½-foot bed and plant two rows per bed.

Soil moisture at sowing is critical. Seedbeds with uneven moisture levels can cause uneven emergence of the crop. A two-day delay in emergence can cause a four- to six-day difference in stage of growth. This will cause problems in scheduling pest control and harvest times for the field.

Varieties

Collards

Hybrid—Blue Max (short internodes; frequently used for one-plant style harvest), Flash, Heavi-crop

Open Pollinated—Georgia Southern, Vates

Turnip

Root Producing:

Hybrid—Just Right, Shogoin, Tokyo Cross

Open Pollinated—Purple Top White Globe

Greens Only:

Hybrid—Alamo

Open Pollinated—Topper, Southern Green

Mustard

Savannah, Florida Broadleaf, Southern Giant

Kale

Mississippians prefer flat-leaved kale to eat. Curly-leaved types are used to garnish salad bars and restaurant plates.

Flat Leaf—Siberian, Vates

Curly Leaf—Blue Armor, Blue Knight

Seeding Rate

All greens are seeded at a 1-inch row spacing when they are to be harvested by cutting the leaves. Greens to be harvested by taking the whole plant are seeded at a 2- to 3-inch spacing. The 3-inch spacing is most frequently used for hybrid collards or turnips marketed with small roots. Collards to be harvested by breaking individual leaves are often transplanted 1 foot apart.

Greens planted at a 1-inch spacing in rows 1 foot apart take approximately 1 pound of seed per acre if planted with a precision planter. Non-precision planters may require 2 to 2½ pounds to plant an acre. Broadcast seed may require 3 to 4 pounds.

Planting Schedules

Greens can be planted all fall and winter. First plantings can be done as early as August and until as late as April. Collards and kale are the most cold- and heat-resistant greens. Mustard is the most susceptible to cold and heat. A good rule of thumb is to sow the next planting when the prior one has emerged. A second method is to plant at 2-week intervals. The idea is to have some greens ready for harvest at any time during the season. Greens can be ready for harvest in as few as five weeks when the weather is favorable, but may take as long as ten weeks if the temperatures are very low or very high.

Greens are frost-tolerant. Mustard is the most sensitive to cold temperatures and can be damaged at 28 degrees. Turnip leaves can withstand approximately 25 degrees, and collard and kale leaves survive temperatures in the teens. All of the plants will live through very low temperatures, but the leaves often are killed and it is frequently easier to plow in a damaged field and replant, rather than trying to nurse a damaged field back into production.

Irrigation

Greens are essentially selling water, so irrigation is a definite plus. Greens are normally watered with overhead sprinklers of some type, although any type of irrigation can be used. Approximately 1 acre-inch of water is needed each week. Greens nearing harvest when temperatures exceed 80 degrees may require as much as 2 acre-inches per week. Water early enough in the day so the leaves are dry before the sun goes down. Wet leaves encourage disease organisms.

Weed Control Recommendations for Greens in Mississippi

Always “start clean” when growing greens. Do not plant greens into areas that are already infested with weeds. Avoid growing greens on poorly drained or “wet” soils. Weeds like curly dock will thrive on wet soils and are difficult to control, particularly in collard, kale, and mustard greens.

If weeds are present prior to planting greens, tillage or burndown herbicides like paraquat and glyphosate are effective for controlling a wide range of weeds. If broadleaf weeds like curly dock, shepardspere, yellow sowthistle, Carolina geranium, cut-leaf eveningprimrose, or wild mustard are present, it is

critical to control these weeds prior to planting because options for broadleaf weed control in greens are limited.

Winter annual grassy weeds like annual bluegrass can be controlled with soil-applied treatments of trifluralin if applications are made prior to emergence. An activating rainfall event or irrigation shortly after applications of soil-applied herbicides like bensulide, DCPA, and trifluralin maximizes the performance of these herbicides. Conversely, dry conditions following applications of these herbicides will result in reduced weed control.

Glyphosate or paraquat prior to or at planting will also control emerged annual bluegrass; however, soil-applied herbicides are needed for residual control of subsequent annual bluegrass flushes. After emergence of seeded greens, emerged annual grassy weeds can be controlled with clethodim or sethoxydim. In turnip greens for processing, clopyralid will control a wide range of broadleaf weeds.

Currently, there are no herbicide options for selective over-the-top control of emerged broadleaf weeds in collard, kale, and mustard greens. Weed control from postemergence herbicides in a winter crop like greens will be optimal if air temperatures are above 50 °F for several days after application. Weed control may be slow or reduced if temperatures are consistently below 50 °F for several days after application. Use the information in Table 1 to select the best herbicide option for the weed spectrum in the field. These recommendations were current at the time of development. Herbicide label directions are subject to change, so always read the herbicide label directions prior to use. **Herbicide users should always follow these directions and adhere to use precautions.**

Table 1. Weed control recommendations for collard, kale, mustard, and turnip greens in Mississippi.

Situation and Chemical per Treated Acre	Product Needed to Treat 1 Acre Broadcast	Time of Application	Weeds Controlled	Special Instructions and Remarks
Preplant Burndown of Existing Weed Vegetation				
paraquat 0.86 to 1.38 lb	Gramoxone Inteon 2.5 to 4 pt in 20 gal water by ground	preplant – prior to emergence	emerged broadleaf and grassy weeds	Collard and turnip greens only. Use 1 qt non-ionic surfactant/100-gal spray solution. Apply before greens emerge to control emerged weeds.
glyphosate 0.75 lb ae	4-lb products: 32 oz 5.5-lb products: 22 oz	preplant – prior to emergence	emerged broadleaf and grassy weeds	Apply before greens emerge to control emerged weeds. Do not exceed 0.75 lb ae equivalent as a single application per year.
Preplant and/or Preemergence				
trifluralin 0.5 to 0.75 lb	Treflan 4 Trifluralin 4 1 to 1.5 pt	preplant incorporated	annual grasses and pigweeds	Do not use on turnip greens, except for processing turnip greens. Use higher rates on fine-textured soils and lighter rates on coarse-textured soils.
bensulide 5 to 6 lb	Prefar 4E 5 to 6 qt	preplant incorporated	annual grasses	Apply and incorporate to a depth of 1 inch prior to planting. Use higher rates on fine-textured soils and lighter rates on coarse-textured soils.
DCPA 4.5 to 10.5	Dacthal W-75 6 to 14 lb in at least 20 gal water by ground	preemergence	annual grasses	Apply immediately after seeding. Do not apply with screens or strainers < 50 mesh. Use spray nozzles large enough to prevent clogging. Use higher rates on fine-textured soils and lighter rates on coarse-textured soils.
Postemergence				
clethodim 0.09 to 0.125 lb	Select Max 12 to 16 oz Select 2 EC 6 to 8 oz	apply to 2- to 6-inch annual grasses	emerged annual grasses and rhizome johnsongrass	Apply with 1 gal crop oil concentrate/100-gal spray solution. Allow at least 14 days between sequential applications. Do not exceed 0.5 lb clethodim/A per season. Allow at least 14 days between application and harvest.
sethoxydim 0.19 to 0.28 lb	Poast 1 to 1.5 pt	apply to 2- to 6-inch annual grasses	emerged annual grasses	Apply with 1 gal crop oil concentrate/100-gal spray solution. Do not exceed 3 pt/A per season. Allow at least 30 days between application and harvest.
clopyralid 0.187 lb	Stinger 0.5 pt	apply to small, one- to four-leaf weeds	emerged broadleaf weeds	Turnip greens only. Do not make more than one application per season. Allow at least 15 and 30 days between application and harvesting turnip tops and roots, respectively.

Insect Management

Many different species of insects attack greens, and they can make your crop unmarketable if you fail to control them. Insects damage greens in several ways. Leaf-feeding species chew holes in leaves, making them unsightly and less marketable. Heavy populations of aphids can cause stunted growth and deformed leaves. Insects that are present at harvest cause contamination, with both their bodies and the droppings they produce. Some insects, such as flea beetle larvae, damage the roots of turnips.

Many of the insecticides used on greens have rather long preharvest intervals (PHIs), and it is extremely important to comply with these PHIs. Be sure to read the label carefully—before you spray—and know what the preharvest interval is for the crop you are spraying. It is not always the same for turnips or mustard as it is for collards! Don't harvest until the proper amount of time has passed! Be aware of the PHIs of the various insecticides that can be used on greens. Use products with long PHIs only when the crop is young, and shift to products with short PHIs as the crop approaches harvest.

Because of the importance of complying with preharvest intervals and avoiding excessive insect injury and contamination, you must be proactive. Don't wait until the pest problem is out of hand before beginning to treat. Be aware of which pest problems to expect in your crop, depending on crop species, time of year, and stage of crop development.

Don't assume you have pests under control just because you have been spraying, or because you haven't noticed any problems while driving by the field. Take time to check your crop at least two times per week. Get out there on your hands and knees and look for insect pests and/or insect damage. Be especially sure to check the undersides of leaves and the small, developing leaves in the crown of the plant. Make treatment decisions based on what you learn from your scouting.

Simply choosing the right insecticide and applying it at the right rate and at the right time does not necessarily guarantee effective insect control. Even the best insecticides won't give good control if you don't get good spray coverage. One of the main keys to getting good coverage is to use enough spray volume. Calibrate boom type sprayers to deliver 60 to 100 gallons of spray per acre, and arrange nozzles to spray at different angles, rather than just straight down, with the goal of enhancing coverage to the undersides of leaves. Air-blast type sprayers that use higher volumes of spray, delivered at higher pressure, will usually provide better control than boom type sprayers.

The leaves of turnips and other greens are waxy and difficult to wet. Using a spreader-sticker type spray additive will often improve spray coverage.

Read label directions to see if a spreader-sticker, or other adjuvant, is recommended for the insecticide you are using.

Some of the most common insect pests of greens are briefly discussed below. The insecticides listed are some of the better products for controlling these pests.

Flea Beetles—Admire, Provado, Thionex, Baythroid. Several species of these tiny beetles can occur on greens. The adults chew tiny, shot-sized holes in the leaves. Larvae damage roots. Flea beetles may appear as soon as plants begin to emerge and are one of the most common insect pests of commercial greens in Mississippi. Use a preventative soil-applied insecticide or be prepared to treat promptly at the first signs of flea beetles or their damage. Check emerging seedlings regularly and carefully.

Aphids—Admire, Provado, Assail, Dimethoate, Pymetrozine. Aphids are small, soft-bodied insects that suck the sap from leaves. Heavy populations at harvest can cause serious contamination problems. They also can cause stunted plant growth and deformed leaves. Be sure to maintain control of aphids as the crop approaches harvest. Check for aphids regularly and treat promptly if you detect building populations. Aphids can be removed by post-harvest washing.

Diamondback Moth—SpinTor, Proclaim, *Bacillus thuringiensis*. These small, green caterpillars are only about one-half of an inch long when fully mature, but they can be serious pests, especially on collards. Diamondback moth caterpillars chew numerous small holes in the leaves. They are more difficult to control than other caterpillar pests.

Loopers—SpinTor, Proclaim, Intrepid, *Bacillus thuringiensis*. Loopers are large caterpillars, up to 1½ inches, that can eat large holes in leaves and contaminate leaves with their droppings.

Other Caterpillars—SpinTor, Proclaim, *Bacillus thuringiensis*. Several other species of caterpillars occasionally occur in greens. These include beet armyworms, southern armyworms, fall armyworms, imported cabbageworms, webworms, and corn earworms.

Harlequin Bugs—Mustang Max, Baythroid, Thionex. These black and orange stink bugs are about three-eighths of an inch long and, unlike other stink bugs, are active during the cooler months. They use their piercing/sucking mouthparts to feed on leaves and stems, causing white, splotchy areas and wilting. Harlequin bugs sometimes occur on turnips and mustard, but are most common, and most damaging, on collards.

Stink Bugs—Mustang Max, Baythroid, Thionex. These bad-smelling, shield-shaped insects are about one-half of an inch long and may be green or brown. Stink bugs prefer to feed on fruit or seeds of crops like tomatoes or peas, but high numbers sometimes occur in greens in the fall after other crops have matured. They can cause significant contamination problems, especially in fall crops.

Vegetable Weevils—Mustang Max, Baythroid, Thionex. These gray beetles are one-third of an inch long and usually have a distinct “V” on their backs. The legless, yellow to green larvae are up to one-half of an inch long and feed on small leaves in the crowns of plants. Destroy crop residue promptly after harvest to help control this pest.

Yellow-Margined Leaf Beetles—Mustang Max, Baythroid, Thionex, Malathion. These beetles are about one-fourth of an inch long and black with a pale yellow margin around the edge of the back. The brown to black larvae feed on small leaves in the crown of the plant and chew holes in large leaves. They are most common around field borders.

Whiteflies—Assail. Heavy infestations of whiteflies sometimes occur on collards. These small, aphid-like insects have white, powdery wings as adults. The immatures are immobile and scale-like and feed on the undersides of leaves. Whiteflies can be difficult to control. If you treat, make at least two successive applications seven days apart.

Root Maggots—Diazinon, Lorsban. Root maggots are the larvae of flies. They feed on the roots of seedling plants, causing stunting, poor growth, and even death. Root maggots are most likely to occur in fields where decaying organic matter from recently destroyed crop residue is present, or in fields planted under cool, early spring conditions. Preventive, at-planting treatments are the best defense against this pest. Root maggots are not as common in Mississippi as they are in more northern states.

Table 2. Insecticides for use on commercial turnips, mustard, or collards.¹

Active Ingredient	Brand Name and Formulation	Labeled Crop (days PHI)			Insects Controlled	Comments
		Turnips	Mustard	Collards		
Soil-applied Insecticide Treatments						
imidacloprid	Admire Pro 4.6 SC	21	21	21	flea beetles aphids	This is one of the most effective treatments for flea beetles. Apply as an at-planting or preplant soil treatment according to label directions. Provides systemic control of listed pests for several weeks after emergence.
diazinon	Diazinon AG 500	X	10	10	wireworms mole crickets cutworms	Apply as a preplant soil treatment according to label directions to control soil insects like wireworms and mole crickets.
chlorpyrifos	Lorsban 4 E	21	X	21	root maggots	Apply as an at-planting soil treatment according to label directions.
Foliar Insecticide Treatments						
imidacloprid	Provado 1.6 F	7	7	7	aphids flea beetles	Do not use Provado if Admire was applied at planting. Provado provides good control of aphids and flea beetles when applied as a foliar spray.
acetamiprid	Assail 30 SG	7	7	7	aphids whiteflies	Assail is one of the best products available to control whiteflies on collards. It also works well on aphids.
pymetrozine	Fulfil 50 WG	0	0	0	aphids	Fulfil is a useful tool for aphid control. It kills aphids by paralyzing their mouthparts, making it impossible for them to feed.
dimethoate	Dimethoate 400	14	14	X	aphids leafminers	Dimethoate is an older insecticide that is primarily useful for control of aphids and leafminers on young plants.
endosulfan	Thionex 3 EC	X	21	21	aphids flea beetles harlequin bugs stink bugs	Thionex is an older product that can only be used on young plants, because of its long PHI. Do not apply to turnips. Do not use more than once per year.
malathion	Malathion 57 EC	3	7	7	aphids vegetable weevils stink bugs harlequin bugs	Malathion is an older insecticide that has largely been replaced by newer, more effective products. It is most useful against aphids and vegetable weevils.
cyfluthrin	Baythroid 2 E	0	0	0	stink bugs harlequin bugs corn earworms vegetable weevils	Baythroid is a pyrethroid insecticide. Pyrethroids provide good control of a wide range of insect pests. Do not use against diamondback moths, loopers, or armyworms. Overuse of pyrethroids can stimulate diamondback moth outbreaks.
zetamethrin	Mustang Max 0.8 EC	X	1	1	stink bugs harlequin bugs corn earworms vegetable weevils	Mustang Max is a pyrethroid insecticide. Pyrethroids provide good control of a wide range of insect pests. Do not use against diamondback moths, loopers, or armyworms. Overuse of pyrethroids can stimulate diamondback moth outbreaks.
<i>bacillus thuringiensis</i>	Crymax Javelin WG Dipel 2XDF Xentari DF	0	0	0	diamondback moths loopers armyworms other caterpillars	Bts are useful for control of most caterpillar pests, including diamondback moths, but they do not usually perform well against webworms. They have no activity against other pests or beneficial insects. Growers should be aware that there are several kinds of Bts; some only work on beetles or mosquito larvae and do not control caterpillars.

Table 2. Insecticides for use on commercial turnips, mustard, or collards.¹

Active Ingredient	Brand Name and Formulation	Labeled Crop (days PHI)			Insects Controlled	Comments
		Turnips	Mustard	Collards		
spinosad	Spintor 2 SC	1	1	1	diamondback moths loopers armyworms imported cabbage-worms	Spintor is one of the most effective insecticides for control of caterpillars. It also controls thrips and leafminers, but does not control any other insect pests.
emamectin benzoate	Proclaim 5% SG	14	14	14	diamondback moths loopers armyworms imported cabbage-worms	Proclaim is one of the most effective insecticides against caterpillar pests, but it has a long PHI. Proclaim also suppresses leafminers, but does not control other non-caterpillar pests.
methoxy-fenozide	Intrepid 2 F	1	1	1	loopers armyworms imported cabbage-worms cabbage webworms	Intrepid is an insect growth regulator that is effective against armyworms, loopers, and webworms. It is less effective against diamondback moths.

¹Use this table as a preliminary guide for choosing products. See product label for specific rates and method of application. Read and follow label directions.

“X” indicates the product is not labeled for this particular crop.

Disease Management

Most greens can usually be grown disease-free. The most common diseases observed in the southern United States are foliar fungal diseases, which can quickly destroy a crop. Fungal diseases are most severe under cool temperatures and in periods of high humidity and rainfall. The four most commonly observed fungal diseases of greens are white spot, alternaria leaf spot, cercospora leaf spot, and downy mildew. A brief description of symptoms will be given followed by management recommendations.

White spot—This fungal disease is caused by the fungus called *Pseudocercospora*. This disease is easily recognizable by the occurrence of rapidly expanding, white-colored lesions on leaves. The lesions can reach up to 1 inch in diameter, and numerous lesions can form under favorable conditions of cool, foggy weather and during periods of high rainfall. When large lesions grow together, the leaf tissue collapses and the crop will take on a tattered appearance and become defoliated. Left unchecked, white spot can totally destroy a crop.

Alternaria leaf spot—The most characteristic symptom of foliar diseases caused by alternaria is the appearance of target-shaped lesions on leaf surfaces. The spots start out small, but under conditions favorable for disease development, lesions will expand rapidly, covering much of the leaf surface. The lesions will have characteristic concentric rings formed as the fungus grows through the leaf. Fifteen to 20 lesions on a mature leaf can destroy as much as 50 to 60 percent of the leaf tissue. If not managed, alternaria leaf spot can quickly ruin the marketability of greens and can even cause a complete loss of the crop.

Cercospora leaf spot—Symptoms of cercospora leaf spot can be confused with alternaria leaf spot in the early stages of disease development. Lesions on leaves will initially be pinpoint-sized, circular spots that may take on a brown to purple coloration. As lesions enlarge, the center will be tan-colored with a brown to purple margin. Under conditions favorable for disease development, numerous small lesions will form on leaf surfaces. Some of the lesions will grow together, destroying large portions of leaf tissue.

Downy mildew—This fungal disease can be devastating to a greens crop. The disease is easily diagnosed in the early stages of infection by the yellow lesions that initially form on upper leaf surfaces. After a day or two, the fungus will begin to kill infected leaf tissue and form characteristic angular lesions (with square or rectangular edges). The center of the lesions will become tan-colored and will be surrounded by a yellow halo. Numerous lesions form rapidly and consume large quantities of plant tissue. The disease can be positively identified with the aid of a hand lens. Observation of the underside of the leaf surface will reveal small, grape-like clusters of fungal spores being produced. Like the other fungal diseases, downy mildew can quickly destroy a crop.

Management of Fungal Foliar Diseases

All fungal diseases are managed more or less the same way. Many weed species serve as hosts for these fungal pathogens, so weeds should be prevented around the garden. Choose an open site with plenty of airflow and well-drained soil that will allow leaves to dry quickly after a rainfall. Some fungicides, such as Kocide (copper hydroxide), can be applied throughout the growing season because of very short pre-harvest intervals. Other fungicides can be applied only during the early part of the growing season because of long pre-harvest intervals.

Table 3. Fungicides for control of foliar diseases of commercial greens.

Disease	Fungicide	Rate	PHI ¹	REI ²	Comments
alternaria leaf spot	Kocide	See label	1	12	Apply products before the onset of disease and continue on a 7- to 14-day interval.
	Endura	6 to 9 oz/A	14	12	
	Switch	11 to 14 oz/A	7	12	
cercospora leaf spot	Quadris	6.2 to 15.4 fl oz/A	0	4	Make no more than two sequential applications.
alternaria leaf spot	Kocide	See label	0		
downy mildew	Forum	6.4 oz/A	4	12	Must be tank-mixed with another fungicide active against oomycete fungi.
white spot	Kocide	See label	0	12	

¹PHI = pre-harvest interval. This is the time in days from the last application until greens can be harvested.

²REI = re-entry interval. This is the time in hours that must elapse before workers can go back into the fields.

Harvesting

All greens for the fresh market are harvested by hand. The leaves are cut with a knife 3 to 5 inches above the ground and secured with rubber bands into bunches to meet the desire of the buyer. The standard bunch is 1½ pounds, but some buyers prefer a 1-pound or 3-pound bunch. Bunches are normally placed into field crates and transported to a packing shed, where they are washed, packed into cardboard boxes, and cooled. It is very important to keep the greens cool and to keep them from wilting. Greens can be cooled by hydrocoolers and are frequently packed with ice.

Hybrid collards are often harvested by cutting the main stalk just above the soil surface and putting a rubber band around the leaves. This makes a one-plant “bunch” and is much easier and faster than cutting leaves from several plants.

Quality is the selling point for greens. Do not bunch leaves that are damaged by disease or insects. Very large leaves are tough and have distinct midribs that are fibrous. Schedule harvests so that the leaves are not oversized. Always wash greens after harvest; this removes field heat and makes a better-looking product.

Post Harvest

Greens should be sold as quickly as possible after harvest. Quality-loss can be slowed by storing them at 33 °F and 95 percent relative humidity, but ideally they should be sold within one day of harvest. Do not display greens in direct sunlight because this warms the greens and causes them to lose moisture. No one wants to buy wilted greens.

Marketing

Stress the nutritional aspects of greens. All greens are high in antioxidants, vitamins, and minerals. Most buyers want pre-washed greens. Make sure the greens have no signs of disease, insect damage, or discoloration from bruising. Be aware of alternate cooking methods, like wilted greens with onions or salads made with mustard, as well as the traditional boiled greens.

Table 4. Estimated costs per acre for fresh-market turnip, mustard, and collard greens.¹

Item	Unit	Price	Quantity	Amount	Your Farm
		dollars		dollars	
Direct Expenses					
Fertilizer					
Lime (Spread)	ton	26.00	0.4950	12.87	_____
Fert 13-13-13	cwt	12.00	6.0000	72.00	_____
Amm Nitrate (34%)	cwt	13.00	1.0000	13.00	_____
Fungicide					
Kocide DF	lb	2.42	6.0000	14.52	_____
Herbicide					
Treflan HFP	pt	2.87	1.5000	4.31	_____
Insecticide					
Malathion 5E	pt	3.06	4.0000	12.24	_____
Dipel ES	pt	4.47	1.0000	4.47	_____
Seed/Plants					
Greens - Hybrid	lb	68.00	3.3000	224.40	_____
Other					
Stacking Bins	each	2.00	20.0000	40.00	_____
Boxes-Waxed	each	0.99	500.0000	495.00	_____
Cooling Greens Box		0.25	500.0000	125.00	_____
Operator Labor					
Tractors	hour	10.27	3.0759	31.57	_____
Hand Labor					
Implements	hour	6.44	0.1931	1.24	_____
Harvest and Pack Labor					
Special Labor	hour	6.44	175.0000	1127.00	_____
Diesel Fuel					
Tractors	gal	2.23	11.8742	26.46	_____
Repair and Maintenance					
Implements	acre	64.79	1.0000	64.79	_____
Tractors	acre	2.75	1.0000	2.75	_____
Interest on Op. Cap.	acre	17.13	1.0000	17.13	_____
TOTAL DIRECT EXPENSES				2288.75	_____
FIXED EXPENSES					
Implements	acre	130.77	1.0000	130.77	_____
Tractors	acre	18.80	1.0000	18.80	_____
TOTAL FIXED EXPENSES				149.57	_____
TOTAL SPECIFIED EXPENSES				2438.32	_____

¹Mississippi, MALTA 2006

Note: Cost of production estimates are based on 2005 input prices.

Fertilization decisions should be based on soil tests.

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