Michigan Chestnut Management Guide 2025

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For additional chestnut management information, visit www.chestnuts.msu.edu. Questions? Contact Erin Lizotte at taylo548@msu.edu.

Information presented here does *not* supersede the label directions.

The efficacies of products listed have not been evaluated on chestnuts in Michigan. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned. To protect yourself, others, and the environment, always read the label before applying any pesticide. Although efforts have been made to check the accuracy of information presented. It is the responsibility of the person using this information to verify that it is correct by reading the corresponding pesticide label in its entirety before using the product. Labels can and do change.

Endangered Species Act Label Changes

The Environmental Protection Agency is changing the way it enforces the Endangered Species Act in respect to pesticide applications. Growers must carefully read all pesticide labels and should look for changes in the 'Environmental Hazards' section which may now require growers to check the Bulletins Live! Two system to determine if there are any new pesticide use limitation on their farm. These EPA bulletins define geographically specific pesticide use limitations for the protection of threatened and endangered species and their designated critical habitat. If your pesticide label directs you to this website, you are required to follow the pesticide use limitation(s) found on your label and in the Bulletins Live! Two system for your intended application area, pesticide product, and application month. You may not see any geographically specific use limitations for the product you are applying even if your label directed you to this website. Growers should keep a copy of the bulletin with their pesticide records. Learn more by visiting https://www.epa.gov/endangered-species/endangered-species-protection-bulletins and contact MDARD with questions at MDA-Info@Michigan.gov.

Chestnut management calendar

Approximate timing of chestnut production management activities in Michigan												
Approximate Date	**Jan-Mar**	**April**	**May**		**June**		**July**	**Aug-Sep**	**Sep-Oct**		**October**	**Nov-Dec**
Crop Stage	**Dormancy**	**Bud swell**	**Bud break**	**Leaf expansion**	**Shoot elongation and catkin development**	**Female flower bloom and pollen shed**	**Bur formation and catkin senescence**	**Kernel development**	**Bur splitting**	**Nut drop**	**Leaf senescence**	**Dormancy**
Pruning	■											■
Irrigation repair	■	■	■								■	■
Manage for black stem borer*		■	■	■	■						■	■
Adjust tree stakes*		■	■									
Remove tree guards*		■	■									
Seed cover crops			■									
Early season weed control		■	■									
Soil sampling		■									■	
Spring tree planting*			■									
Apply needed fertilizer/amendments		■	■	■	■							
Scout for pests	■	■	■	■	■	■	■	■	■	■	■	■
Tissue testing for nutrients							Late July					
Crop estimate								After nonviable bur				
Fall tree planting *									■			
Prepare for harvest								■	■			
Harvest									■	■		
Install mouse guards*									■	■	■	
Paint trunks			■						■	■	■	
Winterize irrigation system											■	■

* Applicable only in immature orchards.

Chestnut pest scouting calendar

Michigan Chestnut Pest Scouting Calendar												
	Dormancy	Bud swell	Bud break	Leaf expansion	Shoot/catkin development	Pollen shed	Bur formation	Kernel development	Bur splitting	Nut drop	Leaf senescence	Dormancy
												
Insects												
Black stem borer*		+	+	+	+	+	+					
Asian chestnut gall wasp	+	+	+	+	+	+	+	+	+	+	+	+
Potato leafhopper		+	+	+	+	+	+	+	+	+	+	
Chestnut weevil		+	+	+	+	+	+	+	+	+		
European rose chafer				+	+	+	+					
Japanese beetle						+	+	+	+			
European red mite	+	+	+	+	+	+	+	+	+	+	+	+
Lecanium scale	+	+	+	+	+	+	+	+	+	+	+	+
Disease												
Oak Wilt	+	+	+	+	+	+	+	+	+	+	+	+
Chestnut blight	+	+	+	+	+	+	+	+	+	+	+	+

High risk, monitoring and control may be required

Less risk, monitoring or control may be required

\+ Potential pest activity or visibility, monitoring should occur

*Pest of trees less than 2.5 inches in diameter, particularly young trees under transplant stress.

Chestnut nutrient management considerations

Nutrient management in chestnut trees is unique among perennial tree crops. A complete fertilization program based on soil testing, annual leaf analysis, and observation of tree growth will maximize the establishment and development of chestnut trees. Many soils in Michigan provide nutrients in sufficient levels for chestnut production. However, before planting, it is recommended that growers do a soil test. A soil test provides valuable soil pH, texture, and nutrient status information. Chestnut trees require well-drained soils and a pH of 5.0-6.5. Even though optimum nutrient levels for phosphorus, potassium, calcium, and magnesium are not known for chestnuts, a soil test can provide information on which to base your nutrient and sulfur or lime addition decisions. To get your soil tested, Michigan growers can contact their local MSU Extension office or A&L Great Lakes Laboratories (www.algreatlakes.com) for soil and leaf testing instructions and costs.

Nitrogen Management

Nitrogen is an essential nutrient and is critical in many plant functions. Fertilizer application is necessary for your orchard maintenance as a tree's nitrogen status can profoundly affect health and vigor. When considering how much nitrogen to use, more is not necessarily better. Excessive nitrogen fertilization will over-invigorate vegetative growth on bearing trees, reducing flower bud formation and fruit yield. It is essential to provide enough nitrogen to maintain a healthy nutritional balance but not to oversupply nitrogen. Fertilizer use during the first year is not recommended and may cause damage to roots. Fertilizer recommendations for years 2-5 are based on better-studied systems, including Apple. After the fifth year, tree vigor health and trunk diameter are used to determine fertilizer rates.

Fertilizer timing and placement

Several standard ways are available to apply nitrogen and other nutrients to your trees in your orchard, and probably dozens of less-than-standard ways that work. The guidelines below are based on the soil application of nitrogen. While some people may apply it to the leaves, there is no precedent for foliar applications on chestnut.

The timing of nitrogen fertilizer applications to the soil surface influences the type of response that trees are likely to exhibit. With most tree crops, early season growth potential and strength of flower buds are primarily determined by the nitrogen reserves that the buds contain when growth begins that season. This is a standard statement used for most fruit trees. However, most fruit trees flower in the spring. Chestnut flowers are in late spring or early summer. We may be able to have some influence on our spring nitrogen application on the strength of the flower bud with the spring application of nitrogen.

With most tree crops, nitrogen fertilizers applied during the dormant season as soon as the snow clears will stimulate vegetative growth and generally do not influence the nitrogen status or strength of current season flower buds or fruit set. This may be true for chestnut, too.

Applications during the summer, particularly after current season shoot growth has been completed, are more likely to improve the buds' nitrogen status for the next season. However, applications of nitrogen late in the summer may delay or reduce fruit development, increase the pre-harvest fruit drop, delay the maturation of buds and woody tissues, and/or stimulate late-season growth, thus increasing the susceptibility of woody tissues and buds to cold injury. In regions where cold injury is of concern, summer applications of nitrogen must be carefully managed to ensure the tree properly shuts down in preparation for winter. Fall applications of nitrogen may delay the hardening of buds and woody tissues and increase the potential for desiccation during the winter, particularly if made before trees have become entirely dormant.

For the most efficient use, nitrogen fertilizers should be spread over the area where the herbicide treatment eliminated the weeds (weed-free zone) or along the cultivated tree-row strips where the majority of the active tree roots are located. Application to weeds or grasses will act to fertilize the weeds, and the tree roots will get the leftovers. For this reason, broadcasting over the entire orchard floor is less efficient, requires considerably greater application rates, and is more likely to benefit ground covers than trees.

Soil testing

Soil testing is an important diagnostic tool for evaluating nutrient imbalances and understanding plant growth problems. Soil test results help growers adjust fertilizer applications to provide nutrients that are lacking in the trees. Also, soil testing allows growers to maintain soil pH within an optimum range (5.5-6.5 for chestnut), which keeps nutrients available for plant uptake. The soil test section usually placed with the fertilizer section of a report like this, but we put it here to inform you that it should be used before you even plant your orchard. Standard soil test reports include soil pH, lime index, available phosphorus, potassium, calcium, and magnesium, liming and fertilizer recommendations based on the crop to be grown, and soil test results. Michigan State University recommends "pounds of nutrients needed," not pounds of commercial fertilizer to apply.

Nitrogen recommendations, 0-5 years

Using this table, you can select the fertilizer of your choice based on availability and specific needs. Note the difference between actual nitrogen, 'Amount of nitrogen per tree,' and product amount as indicated in the 'Urea,' 'Ammonium Nitrate,' and 'Ammonium Sulfate' columns. These recommendations are based on European standard fruit and nut tree nutrient management. Depending on soil and leaf analysis, a given site may require more or less. Also, visual observation of leaf color can be a useful indicator of tree health. Leaf yellowing sometimes indicates that the soil pH is too high at those locations, prohibiting the tree from efficiently utilizing the macro and micronutrients you have made available. Growers should evaluate and adjust pH via soil testing and visual observation.

Annual nitrogen recommendations for chestnut trees from planting through year five.

Field age	Amount of nitrogen per tree (oz.)	Urea, 48% N	Ammonium sulfate, 21% N	Triple 19, 19% N	Triple 16, 16% N	Triple 12 12% N
0	None	0	0	0	0	0
1	2	5 oz	10 oz	11 oz	13 oz	1
2	4	8 oz	1 lb 3 oz	1 lb 5 oz	1 lb 10 oz	2
3	6	13 oz	1 lb 11 oz	2 lb	2 lb 6 oz	3
4	8	1 lb 2 oz	2 lb 5 oz	2 lb 13 oz	3 lb 3 oz	4
5	12	1 lb 10 oz	3 lb 6 oz	4 lb	4 lb 13 oz	6

Nitrogen recommendations, 6 years and older

Fertilizer rates for bearing chestnut trees are determined by tree size and vigor. The diameter of the trunk is multiplied by the nitrogen rate based on the average length of last year's terminal branch growth. Note: Regardless of the outcome of the nitrogen calculation above, no more than 1 lb. (16 oz.) of actual nitrogen should be applied per tree annually.

- Low vigor: If tree growth is considered low (under 8 inches per year) then a multiplier rate of 1/6 lb. (2.7 oz.) nitrogen per inch of trunk diameter is used.
- Normal vigor: If tree growth is considered normal (8 to 12 inches per year) then a multiplier rate of 1/8 lb. (2 oz.) nitrogen per inch of trunk diameter is used.
- Excessive vigor: If growth is more vigorous (greater than 12 inches on average) then a multiplier rate of 1/10 lb. (1.6 oz.) nitrogen per inch of trunk diameter.

Annual nitrogen recommendations for bearing chestnut trees 6 years or older.

Trunk Diameted (in.)	Vigor	Last year's terminal growth (in)	Nitrogen (lb.)	Actual N per tree (lb.)*	Urea (46% N)	Ammonium sulfate (21% N)
3	Low	<8	0.17	0.5	1.1	2.4
3	Normal	8-12	0.13	0.4	0.8	1.8
3	High	>12	0.10	0.3	0.7	1.4
4	Low	<8	0.17	0.7	1.4	3.2
4	Normal	8-12	0.13	0.5	1.1	2.4
4	High	>12	0.10	0.4	0.9	1.9
5	Low	<8	0.17	0.8	1.8	4.0
5	Normal	8-12	0.13	0.6	1.4	3.0
5	High	>12	0.10	0.5	1.1	2.4
6	Low	<8	0.17	1.0	2.2	4.8
6	Normal	8-12	0.13	0.8	1.6	3.6
6	High	>12	0.10	0.6	1.3	2.9
7	Low	<8	0.17	1.0	2.2	4.8
7	Normal	8-12	0.13	0.9	1.9	4.2
7	High	>12	0.10	0.7	1.5	3.3
8	Low	<8	0.17	1.0	2.2	4.8
8	Normal	8-12	0.13	1.0	2.2	4.8
8	High	>12	0.10	0.8	1.7	3.8
9	Low	<8	0.17	1.0	2.2	4.8
9	Normal	8-12	0.13	1.0	2.2	4.8
9	High	>12	0.10	0.9	2.0	4.3
10 or greater	Low	<8	0.17	1.0	2.2	4.8
10 or greater	Normal	8-12	0.13	1.0	2.2	4.8
10 or greater	High	>12	0.10	1.0	2.2	4.8

* Based on tree uptake, nitrogen applications should never exceed 1 lb actual nitrogen per tree annually.

Insecticides/miticides registered for use on edible chestnuts in Michigan, 2025

Active Ingredient (IRAC insecticide group)	Products Labeled	Pesticide Efficacy[1]					Beneficial Insect Toxicity[2]		
		Potato leafhopper	Rose chafer	Japanese beetle	Two-spotted spider mite	European red mite	Bees	Mite predators	Insect predators
Carbamates (1A)									
carbaryl	Carbaryl 4L, Novasource Sevin XLR Plus, Sevin 4F	E	G	G	U	U	T	T	T
Organophosphates (1B)									
malathion	Drexel Malathion 5EC, Loveland Malathion 57EC, Malathion 8 Aquamal	N	F-G	F-G	U	U	T	M	M
phosmet	Imidan 70-W	G-E	G	E	N	N	T	S	M
Pyrethroids (3)									
alpha-cypermethrin	Fastac EC, Fastac CS Insecticide						T	U	U
bifenthrin**	Aceto Bifenthrin 2EC, Batallion 2EC, Bifenture 10DF, Bifenture EC, Bifen 2 AG Gold, Bifender FC, Brigade WSB, Brigade 2EC, Fanfare EC, Fanfare ES, GCS Bifenthrin 2EC, Hero EW, Lancer 2EC, Sniper Helios, Sniper, Sniper LFR, Steed	G	U	E	U	U	T	T	T
beta-cyfluthrin**	Baythroid XL, Sultrus	E	G	G	U	U	T	T	T
cyfluthrin**	Tombstone, Tombstone Helios	U	N	U	N	N	T	T	T
gamma-cyhalothrin**	Declare, Proaxis	U	G	G	U	N	T	T	T
lambdacyhalothrin**	Cavalry II, Crusader 1EC, Grizzly Too, Kendo 22.8CS, Lambda T, Lambda-CY AG, Lambda-CY 1EC, Lambdastar, Lambdastar CS, LambdaStar Plus Insecticide, Lamcap II, L-C Insecticide, Nufarm Lambda-, Cyhalothrin 1EC, Paradigm VC, Province II, Ravage, Serpent 1EC, Silencer VXN, Silencer, Warrior II with Zeon, Willowood Lambda-CY 1EC	U	G	G	U	N	T	T	T
pyrethrin	EverGreen EC60-6*, Pyganic EC1.4 II*, Pyganic EC5.0 II*, Tersus Insecticide	U	F	F	U	U	M	S	S
deltamethrin**	Delta Gold	U	N	U	N	N	T	T	T
zeta-cypermethrin	Mustang Insecticide, Mustang Maxx	G	G	G	U	U	T	T	T
fenpropathrin**	Danitol 2.4EC Spray	G	U	G	U	G	T	T	T

1. Pesticide efficacy ratings; E-excellent, G-good, F-fair, P-poor, U-unknown, N-pest not included on label. **2**. Beneficial insect toxicity; S-safe, M-moderate, T-toxic, U-unknown ***** OMRI approved for organic production.****** Products containing these active ingredients are classified as a restricted use pesticides and require the applicator to retain a pesticide applicator license. Pesticide efficacy and beneficial insect toxicity is based on trials in fruit crops with products containing the same active ingredient, as reported in the E154 Fruit Management Guide, Michigan State University Extension.

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		Potato leafhopper	Rose chafer	Japanese beetle	Two-spotted spider mite	European red mite	Bees	Mite predators	Insect predators
Neonicitinoids (4)									
imidacloprid (4A)	Acronyx 4F, Admire 2 Flowable , Advise Four, Alias 4F, Imidashot DF Insecticide, Macho 2.0 FL, Macho 4.0, Malice 2F, Midash Forte Insecticide, Montana 2F, Montana 4F, Nuprid 2SC, Nuprid 4.6F Pro, Nuprid 4F Max, Provoke, Widow, Wrangler	G	G	G	N	N	T	S	M
acetamiprid (4A)	Anarchy 30SG, Anarchy 70WP, ArVida 30SG, Assail 30 SC, Assail 30SG, Assail 70WP, Azomar, Intruder Max 70WP	E	G	G	N	N	M	S	M
clothianidin (4A)	Belay Insecticide	E	G	G	N	N	M	S	M
flupyradifurone (4D)	Altus, Sivanto 200SL, Sivanto Prime	N	N	N	N	N	S	S	S
sulfoxaflor (4C)	Sequoia, Transform WG	G	U	U	U	U	T	U	U
Spinosyns (5)									
spinosad	Entrust*, Entrust SC*, GF-120 NF*, Seduce*	N	N	N	U	N	M	S	M
spinetoram	Delegate WG	N	G	N	N	N	M	S	M
Avermectins (6)									
emamectin benzoate**	Proclaim	N	N	N	F	U	T	S	S
Pyridine azinomethine derivatives (9B)									
pyrifluquinazon	PQZ Insecticide	U	U	U	U	U	M	S	S
Flonicamid (9C)									
flonicamid	Beleaf 50SG	N	N	N	N	N	M	S	M
Tetramic acid derivatives (23)									
spirotetramat	Kontos, Movento	N	N	N	U	U	M	S	S
Diamides (28)									
chlorantraniliprole	Altacor evo, Altacor Insect Control, Besiege, Shenzi 700 WG, Voliam Xpress	N	N	G	N	N	S	S	S
cyantraniliprole	FMC Exirel	G	N	G	N	N	M	S	S

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		Potato leafhopper	Rose chafer	Japanese beetle	Two-spotted spider mite	European red mite	Bees	Mite predators	Insect predators
Biopesticides									
Bacillus thuringiensis (11A)	BT Now*, Dipel DF*, Leprotec*, Xentari*	N,U	N,U	N,U	N,U	N,U	S	S	S
Chromobacterium subtsugae	Grandevo CG*, Grandevo WDG*	U	N	N	U	U	S	S	S
Chenopodium ambrosioide extract	Requiem EC	U	N	N	U	U	U	S	S
kaolin	Surround WP	F	F	F	N	N	S	M	M
Insect growth regulators									
azadirachtin (IGR)	Aza-Direct*, Azaguard, Ecozin Plus 1.2% ME*, Molt-X, Neemix 4.5*	U	F	F	U	U	S	S	S
buprofezin (16)	Centaur WDG	G	N	N	N	N	S	S	S
diflubenzuron (15)	Dimilin 2L, Durant 2 L IGR, Unforgiven, Ventrillix 2L	N	N	N	N	N	T	T	T
pyriproxyfen (7C)	Esteem 0.86EC, Esteem 35WP, Pitch 35WP, Terva 35WP	N	F,U	N	N	N	S	S	S
methoxyfenozide (18)	Corteva Engame, GCS Methoxy 2F, Intrepid Edge, Intrepid 2F, Invertid 2F, Troubadour 2F, Vexer Insecticide	N	N	N	N	N	S	S	S
tebufenozide (18)	Confirm 2F	U	U	U	U	U	S	S	S

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		Potato leafhopper	Rose chafer	Japanese beetle	Two-spotted spider mite	European red mite	Bees	Mite predators	Insect predators
Premixed products									
azadirachtin + pyrethrin (3)	Azera Insecticide	U	U	U	U	U	T	T	T
chlorantraniliprole (28) + lambdacyhalothrin (3)**	Besiege Insecticide**	G	G	G	N	N	T	T	T
abamectin (6)** + cyantraniloprile (28)	Minecto Pro**	U	U	U	E	E	T	S	S
imidacloprid (4) + beta-cyfluthrin (3)**	Leverage 360**	E	G	G	U	U	T	S	M
methoxyfenozide (18) + spinetoram (5)	Intrepid Edge	U	U	U	U	U	M	M	M
bifenthrin (3)** + zeta-cypermethrin (3)**	Hero EW, Steed**	E	E	G	U	N	T	T	T
zeta-cypermethrim (3)** + avermectin	Gladiator**	E	G	G	E	E	T	T	T
lambdacyhalothrin (3)** + thiamethoxam (4A)	Endigo ZC**, Endigo ZCX	E	E	G	E	N	T	T	T
bifenthrin (3)** + imidacloprid (4A)	Brigadier**, Skyraider**, Swagger**	E	E	G	U	U	T	T	T
lambdacyhalothrim (3) **+ imidacloprid (4A)	Kilter**	U	U	U	U	N	T	T	T

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		Potato leafhopper	Rose chafer	Japanese beetle	Two-spotted spider mite	European red mite	Bees	Mite predators	Insect predators
Miticides									
acequinocyl (20)	UPL Kanemite 15SC	N	N	N	G	G	S	S	S
hexythiazox (10A)	Hexamite, Onager, Onager Optek, Savey 50DF	N	N	N	E	R	S	S	S
fenazaquin (21)	Magister SC	U	U	U	E	E	T	M	S
fenpyroximate (21A)	Portal XLO, Portal Miticide/Insecticide	G	N	N	G	E	M	M	M
tolfenpyrad (21A)	Apta	U	U	U	U	U	M	S	S
pyridaben (21)	Nexter, Nexter SC	N	N	N	G	E	M	M	M
spirodiclofen (23)	Envidor 2SC	N	N	N	E	E	M	S	M
cyflumetofen (25)	Nealta	N	N	N	E	E	S	S	S
etoxazole (10)	Zeal Miticide	N	N	N	E	E	S	S	S
abamectin** (6)	Averland FC, Abacus, Abacus V, Abamex, Abba Ultra Miticide/Insecticide, Abba Ultra, Agri-Mek SC, Enterik 0.15LV, Reaper 0.15EC, Reaper Clearform, Reaper Advance, Willowood Abamectin 0.15EC	U	G	N	E	E	T	S	S
bifenazate (20D)	Acramite 50 WS, Acramite-4SC, Banter SC, Enervate 4SC, Vigilant 4SC, Willowood Bifenazate 50WDG	N	N	N	E	G	M	S	S

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Fungicides labeled for use on edible chestnuts in Michigan, 2025

Activity	Active Ingredient (FRAC fungicide group)	Products Labeled
FRAC 3	propiconazole (3)	Bumper ES, Bumper 41.8 EC, Fitness, Propi-Star EC, Propicure 3.6F, Propimax EC, Slant, Tilt, Topaz, Willowood Propicon 3.6 EC and more
	tebuconazole (3)	Buzz Ultra DF, TebuStar 45 WP, Tebucon 45DF Fungicide, Toledo 45 WP, Willowood Teb 45 DF
	mefentrifluconazole (3)	Cevya Fungicide
	metconazole (3)	Quash
	flutriafol (3)	Topguard Fungicide
FRAC 4	mefenoxam (4)	RidomilGold SL, ReCon Bold SL
FRAC 7	boscalid (7)	Bonafide
FRAC 11	trifloxystrobin (11)	Flint Extra, Gem 500 SC
	azoxystrobin (11)	Abound Flowable, Acadia 2SC, Aframe, Arius 250, Azoxystar, AZteroid FC 3.3, Dexter SC, GCS Azoxy 2SC, Heritage SC, Satori, Quadris Flowable Fungicide
M01	copper hydroxide + copper oxychloride	Badge SC, Badge X2
	azoxystrobin (11) + difenoconazole (3)	Acadia ESQ Fungicide, Quadris Top
	azoxystrobin (11) + flutriafol (3)	Topguard EQ Fungicide
	azoxystrobin (11) + propiconazole (3)	Aframe Plus, Atticus Aquila XL,Avaris 2XS, Cover XL, GCS AzoxyProp, MiCrop Fungicide, Trevo P, Quilt Xcel, Xisophin
	boscalid (7) + pyraclostrobin (11)	Pageant Intrinsic, Pristine
	fluaxpyroxad (7) + pyraclostrobin (11)	Merivon Xemium Fungicide
	cyprodinil (9) + difenoconazole (3)	Inspire Super, Vango ESQ
	fluopyram (7) + tebuconazole (3)	Luna Experience
	fluopyram (7) + trifloxystrobin (11)	Luna Sensation
Defenese inducers	phosphorous acid, mono and dibasic sodium, potassium, ammonium salts and zinc phosphite	Alude, Fungi-Phite Fungicide, Kphite 7LP, Phiticide, Phostrol, Sparra, Sysstem-ZN
	potassium phosphite (P07)	Fosphite Fungicide, Rampart, Confine Extra
Biopesticides	neem oil (NC[1])	Trilogy*
	Streptomyces lydicus	Actinovate AG
	Pseudomonas Chloraphis Strain AFS009	Howler Fungicide*
	Trichoderma biopesticides (NA[2])	RootShield WP Biological Fungicide, RootShield Granules*, RootShield Plus WP*
	Bacillus biopesticides (44)	Aviv*, Double Nickel 55*, Double Nickel LC*, Serifel Biofungicide*, Serenade MAX*, Sonota*, Serenade Opti
	Reynoutria sachalinensis extract (P5)	Regalia* Regalia CG*

1. Not classified as belonging to a particular mode of action. **2.** Not listed or classified by the Fungicide Resistance Action Committee. *****OMRI approved for organic production.

Herbicides registered for use on edible chestnuts in Michigan, 2025				
Application timing[1]	**Active ingredient (WSSA group number[2])**	**Trade Name**	**Notes**	**Preharvest Interval[3]**
Pre-emergent	flumioxazin (14)	BroadStar, Chateau EZ, Chateau SW, Flumi 51 WDG, RedEagle Flumioxasin 51% WDG, SureGuard, Tuscany SC Herbicide, Tuscany, Varsity, Zaltus SX, Zaltus SC	Controls most broadleaves and grasses. Fall application is most effective. Apply to trees established at least 1 year.	60 days
	indaziflam (29)	Alion Herbicide	Controls annual grasses and broadleaf weeds. Orchards must be at least one year old.	14 days
	rimsulfuron (2)	DuPont Matrix SG, Grapple, Hinge, Kasai, Pruvin Herbicide, Solida Herbicide, Tetris SG	Apply to trees established at least 1 year. Controls grasses and broadleaves.	14 days
	pendimethalin (3)	Prowl H2O, Pin-Dee 3.3 EC, Satellite HydroCap Herbicide, Stealth Herbicide	Non-bearing only. Controls annual grasses and some broadleaves.	Non bearing, see label
	oryzalin (3)	Surflan AS	Controls annual grasses and some broadleaves for 4-6 weeks. Apply in spring	see label
	isoxaben (21)	Trellis or Trellis SC	Controls broadleaves for 4-6 weeks. Apply to established bearing and non-bearing trees.	60 days
Pre/Post Emergent	sulfentrazone (14)	Agri Star Sulfentrazone 4L, Aquesta 4F, Vandal 4SC	Controls select grasses, sedges and broadleaf weeds. Trees must be healthy and 1 year or older. Avoid contact with tree.	3 days
	oxyfluorfen (14)	Collide Herbicide, Galigan 2E, GoalTender Herbicide, Goal 2XL, Oxystar 4L	Some grasses and broadleaf weed control. Apply while trees are dormant.	Dormant only
	halosulfuron (2)	Profine 75, Stadia	Controls nutsedge and broadleaf weeds. Apply to nut trees that have been established 1 year or more.	1 day

1. Pre-emergent herbicides should be applied to control weeds before germination takes place. Post-emergent herbicides may be applied to actively growing weeds. **2.** WSSA (Weed Science Society of America) herbicide group numbers, based on the site of action. **3.** The preharvest interval is the minimum number of days between application and harvest.

Herbicides registered for use on edible chestnuts in Michigan, 2025				
Application timing[1]	**Active ingredient (WSSA group number[2])**	**Trade Name**	**Notes**	**Preharvest Interval[3]**
Post-emergent	ammonium nonanoate	Axxe	OMRI approved. Broad spectrum, non selective burn down of broadleaf and grass	see label
	clethodim (1)	Arrow 2 EC, Ceridian 2EC, Intensity One, Select Max Herbicide w/ Inside Technology, Volunteer (Tenkoz-Albaugh)	Selective, postemergence for annual and perennial grasses. Non bearing trees only.	Not applicable
	glyphosate (9)	Buccaneer, Buccaneer 5 Extra, Buccaneer Plus, Cornerstone Plus, Cornerstone 5 Plus, Credit 41 Extra, Credit 5.4 Extra, Duramax Herbicide, Durango DMA Herbicide, Envy, Envy Intense, Envy Six Max, Four Power Plus, Gly Star Original, Gly Start Plus, Glyphogan Plus Herbicide, Glyphosate 4 Plus, Honcho K6 Herbicide, Mad Dog, Mad Dog Plus, Makaze Herbicide, Roundup PowerMAX, Roundup WeatherMAX	Controls annual and perennial weeds. Avoid contact with trees.	3 days
	oryzalin (3)	Fugitive, Surflan Flex	Surface applied to control many annual grasses and broadleaf weeds.	see label
	glufosinate-ammonium (10)	Cheetah Herbicide, Fever, Inflame 280 SL, Interline Herbicide, Willowood Glufosinate 280SL	Controls broadleaf and grassy weeds. Avoid crop contact.	14 days
	paraquat (22)	Devour, Gramoxone SL 2.0, Gramaxone SL 3.0, Helmquat 3SL, Paraquat Concentrate, Para-Shot 3.0, Parazone 3SL, Purgatory 3 SL, Quik-Quat, Tigris Paraquat 3 SL, Willowood Paraquat 3SL	Restricted use pesticide. Desiccates green foliage.	see label
	mesotrione (27)	Atticus Cavallo 4SC, Bellum, Mesotrione 4SC, MesoTryOne 4L, Motif Herbicide	Systemic herbicide for the control of broadleaf weeds. Only apply to vigorous orchards, one year or older.	30 days
	carfentrazone (14)	Aim EC, Antik EC	Controls small broadleaf weeds. Include NIS	3 days
	pyraflufen (14)	Venue	Use with other post-emergent herbicides to improve broadleaf weed desiccation. Include non-ionic surfactant.	0 days
	pelagronic acid	Scythe Herbicide	Broadspectrum burndown for site prep and spot treatments, and as shielded application.	see label
	sethoxydim (1)	Poast	Kills grasses. Use high rate for perennial grasses. Use with non-ionic surfactant.	15 days
	2, 4-D (4)	Drexel De-Amine 4, De-Amine 4, Embed, Saber, Savage Dry Soluble	Controls most annual and perennial broadleaf weeds. Note 60-day preharvest interval.	60 days

1. Pre-emergent herbicides should be applied to control weeds before germination takes place. Post-emergent herbicides may be applied to actively growing weeds. **2.** WSSA (Weed Science Society of America) herbicide group numbers, based on the site of action. **3.** The preharvest interval is the minimum number of days between application and harvest.