Jalapeño
& Other Hot Peppers

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Varieties
Ancho/Poblano: San Ardo, Tiburon

Anaheim: Numex Joe E. Parker

Cayenne: Long Red Cayenne, Super Cayenne

Habañero: Chile Piquin, Orange Golden

Jalapeño: Delicias, Firenza, Grande, Mucho Nacho, Sonora, TAM Jalapeño, Telica, Tula, TAM Vera Cruz

Serrano: Hidalgo, Serrano del Sol, TAM Serrano Hidalgo, Serrano Tampinqueno

Wax: Hungarian Yellow Wax

Other hot hybrids and specialty varieties: Cherry Bomb, Fresno, Kung Pao, Mexibell, Numex Big Jim

Soil Preferences
Fine sandy loam soil with good drainage and a pH of 6.0 - 7.5. Peppers can tolerate heavier soils, especially for fall crops.

Optimum Growing Conditions
Warm season crop, hot days (85-95°F) with cool nights (65-70°F). Excessively high temperatures will reduce fruit size and cause bloom drop.

Establishment Methods

Planting Method	Direct seeded or transplanted
Optimum Time	*Direct seeded* Spring - when soil temperature >60°F Fall - approximately 120 days prior to average first frost date *Transplant* Spring - after last average frost date

	Fall - approximately 85-100 days prior to average frost date
Seeding rate	2 - 4 lbs/acre
Approx seed/oz	4,500
Seeding depth	0.5 - 0.75"
Seedling spacing	1-2 rows on 30-40" raised beds with in-row spacing of 2-6", maximum of 8" If needed, thin seedlings to stand 35-40 days after emergence. Approximately 30,000 plants/acre required for optimum yields.

Fertility/Fertilization

Rates presented as actual lbs/acre N_2, P_2O_5, and K_2O (base actual rates applied on soil test results).

Generalized rate: 150 - 60 - 60 lb/acre	
N*	60 lbs pre-plant 30-50 lbs side-dressed at thinning or after transplanting 20-30 lbs after second harvest Calcium nitrate induces quicker plant response than most other N forms
P**	50-80 lbs band 2" below seed at planting
K	40-80 lbs pre-plant with N

* Ammonium nitrate is very stable and least likely to evaporate. Urea and ammonium sulfate evaporate if not incorporated. ** Use a high phosphate starter solution with transplants (5 lb/50 gallons water applied at 8 oz/plant).

Water/Irrigation

High water demand: 25-30". Apply irrigation uniformly throughout growing season.

Pest Management

Pepper Diseases and Common Name of Fungicidal Controls

DISEASE	FUNGICIDE*	OMRI LISTED FUNGICIDE**
Alternaria or Anthracnose		Clove, Rosemary and Thyme Oil, Neem Oil, *Streptomyces lydicus*
Bacterial Leaf Spot		Clove, Rosemary and Thyme Oil, Neem Oil, Sulfur, Cuprous Oxide

Nematode	1,3-Dichloropropene, Chloropicrin, Metam-Potassium, Metam-Sodium, Sesame Oil	Azadirachtin
Phytophthora blight	1,3-Dichloropropene, Chloropicrin, Fluopicolide, Metam-Potassium, Metam-Sodium, Potassium Phosphite	*Bacillus subtilis*, Hydrogen Dioxide, *Streptomyces lydicus*
Southern blight	Fluoxastrobin, PCNB	
Virus	Imidacloprid, Paraffinic Oil	

Pepper Insect Pests and Common Name of Insecticidal Controls

INSECT	INSECTICIDE*	OMRI LISTED INSECTICIDE**
Aphid	Acephate, Thiamethoxam, Imidacloprid, Acetamiprid, Deltamethrin, Petroleum Oil, Naled, Dimethoate, Malathion	Azadirachtin, Garlic Juice Extracts, Peppermint and Rosemary Oil
Armyworm	Bifenthrin, Cryolite, Deltamethrin, Endosulfan, Flubendiamide, Methomyl, Spinetoram	Azadirachtin, *Bacillus thuringiensis*, Pyrethrins, Spinosad
Corn Earworm	Beta-Cyfluthrin, Bifenthrin, Cyfluthrin, Deltamethrin, Esfenvalerate, Zeta-Cypermethrin	Azadirachtin, *Bacillus thuringiensis*
Cutworm	Bifenthrin, Carbaryl, Deltamethrin, Diazinon, Flubendiamide, Gamma-Cyhalothrin, Lambdacyhalothrin, Zeta-Cypermethrin	Azadirachtin, *Bacillus thuringiensis*
Flea Beetle	Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cryolite, Cyfluthrin, Deltamethrin, Dinotefuran Endosulfan, Esfenvalerate, Gamma-Cyhalothrin, Imidacloprid, Kaolin, Naled, Thiamethoxam, Zeta-Cypermethrin	Azadirachtin, Pyrethrins
Leafminer	Bifenthrin, Chlorantraniliprole, Cyfluthrin, Cyromazine, Deltamethrin, Dimethoate, Dinotefuran, Gamma-Cyhalothrin, Imidacloprid, Lambdacyhalothrin, Naled, Paraffinic Oil, Petroleum Oil, Soybean Oil, Thiamethoxam	Azadirachtin, Garlic Juice Extracts
Pepper Weevil	Acetamiprid, Beta-Cyfluthrin, Bifenthrin, Cryolite, Cyfluthrin, Deltamethrin, Diflubenzuron, Esfenvalerate, Gamma-	Azadirachtin

	Cyhalothrin, Imidacloprid, Lambdacyhalothrin, Oxamyl, Permethrin, Spinetoram, Thiamethoxam, Zeta-Cypermethrin	
Spider Mite	Abamectin, Gamma-Cyhalothrin, Lambdacyhalothrin, Naled, Potassium Salts of Fatty Acids	Neem Oil
Thrips	Acetamiprid, Beta-Cyfluthrin, Bifenthrin, Carbaryl, Cyfluthrin, Deltamethrin, Dinotefuran, Gamma-Cyhalothrin, Imidacloprid, Kaolin, Lambdacyhalothrin, Oxamyl, Petroleum Oil, Potassium Salts of Fatty Acids, Soybean Oil, Thiamethoxam, Zeta-Cypermethrin	Azadirachtin, Neem Oil, Peppermint and Rosemary Oil, Pyrethrins

Weeds and Common Name of Herbicidal Controls

WEED	HERBICIDE*	OMRI LISTED HERBICIDE**
Preplant incorporated	Clomazone, DCPA, Napropamide, S-Metolachlor, Bensulide, Pendimethalin, Trifluralin	Corn Gluten Meal
Preemergence	DCPA, Napropamide, S-Metolachlor	
Postemergence	Carfentrazone, Oxyfluorfen, Paraquat, Halosulfuron, Sethoxydim, Pendimethalin, Glyphosate, Pelargonic Acid, Clethodim	D-Limonene, Clove Oil, Cinnamon and Clove Oil

* The above is a partial listing of controls intended as examples. Some labels may have been revoked since the publication of this guide. Refer to product labels for specifics and use accordingly. Ensure that products with one of the listed active ingredients are registered for the crop it is to be used on. Failure to do the above may result in crop injury, death and/or citation for law violation. Humans, animals and the environment may also be adversely affected by misuse.

** As stated in §205.206 of the National Organic Standards, pest management decisions should follow a hierarchical approach, which should be defined in a farm's organic systems plan. Please ensure that you have followed the appropriate steps and any product to be used in certified organic production systems has been approved by your certifying agent.

Harvest

Days after planting	Direct seeded - 110-120 days Transplants - 75-85 days Yields maximized by delaying harvest until 5-10% of fruit are red

Optimum Stage	Fully mature green, firm, solid pods 2-2.5" in length
Normal method	Hand (determinant types can be machine harvested)
Containers	Burlap bags
Grades	Fresh Market - allow stems to remain on fruit Processing - stem removal required
Packaging/Handling	Normally sold in bulk burlap bags
Anticipated yield/acre	8-10 tons/acre

Transit Conditions
45-55°F with 80% RH. Maximum length of storage is 2-3 weeks. Normally shipped unrefrigerated in bulk.

Comments/Production Keys

- Initiating harvest too early will result in reduction of yields. Maximize yields by delaying first harvest until 5-10% of the fruit show red color. Harvest on a 2-3 week interval thereafter.
- In the Lower Rio Grande Valley or in areas where high humidity prevails, moisture stressing seedlings 25-30 days after establishment enhances root development, earliness and subsequent yields. This practice may not be successful in drier areas.
- When cultivating, be careful not to root prune. Most roots run north and south, so deep cultivate bottom of water furrows, and shallow cultivate closer to plants.
- Cannot tolerate any moisture stress during bloom
- Scoville units are the measure of the relative heat level of hot peppers or capsaicin concentration.
  Average heat level in Scoville units for peppers are:
  - Jalapeño - 3,500-4,500
  - Serrano - 7,000-25,000
  - Cayenne - 35,000
  - Chile Piquin (long) - 40,000
  - Tabasco - 30,000-50,000
  - Habanero/Scotch Bonnet - 200,000-300,000