



Garlic Juice Pesticide



OBJECTIVE	CATEGORY	DIFFICULTY	Number of People	TIME
<ul style="list-style-type: none"> Control insect predation of farm plants Use within 2-5 days for greatest efficacy 	Pest management	Easy	1-3	1 hr to overnight

MATERIAL LIST	TOOLS & EQUIPMENT
2-4 cloves of fresh potent garlic	Knife
½ cup of coarsely chopped onion	Cutting board
1 teaspoon chili powder OR 1 fresh hot pepper	Medium sized mixing bowl
1 tablespoon of high sudsing dish soap	Strainer: Stocking (pantyhose) OR cheesecloth OR fine mesh strainer
2 cups of water (use rainwater or dechlorinated water)	16 oz. spray bottle and a funnel
	Blender
	Kettle for boiling water if not letting steep overnight

HOW TO:
<ol style="list-style-type: none"> Skin the garlic cloves and coarsely chop the onion, place them in the mixing bowl. Add the hot pepper and chili powder to the bowl. Put all ingredients along with 2 cups of water into the blender. Mix for 1 minute. Let infuse overnight OR pour the blended ingredients into a tea kettle to boil. If boiling, boil for 10 minutes. Let cool. Strain out the ingredients; you can put the strained garlic mash around the base of an infested plant. Add the tablespoon of liquid dish soap to the garlic infused liquid. Decant into a spray bottle. Spray generously on your plants, coating both sides of the leaves. <p><i>*If you're in the garden and/or don't have access to electricity you can finely chop and crush the garlic, onion and fresh hot pepper using the side of a knife.</i></p>

WHAT YOU NEED TO KNOW	
How long will the potency last?	It is most potent when applied right away. This vapor has a half-life of 2.5 days before the insecticidal effects wear off. We recommend that you use the spray up right away or within 2 days of preparation. Shake the bottle before applying in order to mix ingredients if used after storing in the refrigerator. You can prepare ingredients and freeze them in a baggie to create a future batch. When you want to make another batch, defrost this mix, add the water, etc.
Application rate and time	Apply weekly as a preventative and/or 2x week if you notice the pest is present, until the pest is gone. Optimal time for application is early morning or sunset.
Why use a natural insecticide instead of a pesticide?	Natural insecticides can be as effective as commercial pesticides. Commercial pesticides are more expensive and harmful to other forms of life.
Does it affect the smell of my plants?	The residual aroma associated with the garlic is present up to one month after application so if you are concerned with harvest, do not apply within one month of your harvest date.
Can I use it on houseplants?	This can be used on plants indoors as well as in the garden.
Will it kill beneficial microorganisms in the soil ?	Less than industrial pesticides. You have to make decisions. Dilution levels can assist. The idea is to repel and not use so much that you are overwhelming the system but creating a balance where pests are not allowed to dominate.
Should you rotate insecticides?	You can use alternate remedies such as application of neem oil/a host of others, on alternate applications so that the pests do not build up resistance to any one type.

INGREDIENT PROPERTIES	
What is it in garlic that makes it a natural insecticide?	Garlic contains sulfur. Sulfur was the first insecticide known to humans. Sulfur is an important element for making pesticides. Garlic has numerous active compounds that attack pests, including allicin, which produces allicin vapor when crushed. This vapor repels pests.
What does the soap do?	The soap helps the spray cling to the leaves. The chemicals in the soap will also help extract the capsaicin in the chilis.
What is the advantage of using chili and onion as well as the garlic?	Combining natural biocides can have a complimentary effect greater than that of the individual ingredients.
Potency of the chilis: What makes chilis potent?	The active compound in chili is called capsaicin. As an insecticide it acts as a stomach poison and repellant.
Do all chilis have the same amount of capsaicin?	No. The amount of capsaicin is most potent to least potent in the following chili pepper varieties: scotch bonnet, birdseye, cayenne, jalapeno, poblano. Bell peppers do not contain capsaicin.
Can using chilis make it too strong?	Yes. It may irritate or burn your skin and eyes. Use with caution!
Why strain the mixture?	Because if you don't, the mix will clog the sprayer.
Why use dechlorinated water?	Chlorine is added to our water to kill bacteria that may harm humans. However, the chlorine will kill beneficial microbes which we want to avoid.
Why let the mixture infuse overnight vs boiling water?	Overnight is optimal as the garlic will infuse slowly and steadily. Boil the water if you do not have the time; boiling will kill some of garlic's active compounds but not all.