

PLANTING CONSIDERATIONS FOR GARLIC

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Without a certification program in place some growers wonder how they should treat new seed introduced onto the farm. Many growers have been able to find sources of nice, healthy-looking seed from sources who have tested negative for Garlic Bloat Nematode, but this result is not a guarantee that every bulb that the grower produced is GBN free; it is only a guarantee that the garlic used in the test is GBN free! Additionally, new seed may come with Fusarium or surface molds. To minimize risk of infesting established seed stock, and to promote healthy and vigorous garlic next year, include a few safeguards and best practices in your planting plans.

- 1) **Map it out** Create a planting map for the garlic, and separate the new seed from your existing seed stock. The separation doesn't have to be large, since GBN can move no more than one foot in soil. However, if your soil moves, the GBN can move with it, so make sure you plant new seed down hill from established seed to prevent movement with erosion. Also place your new garlic where you will be able to plant and cultivate it last. Avoiding movement of soil around GNB infested plants to areas with uninfested plants with your cultivation equipment is a key preventative action during the growing season. Label the new garlic clearly in the field for reference next year.
- 2) **Cull bulbs or cloves with symptoms or damage when cracking:** Carefully feel and look at each clove during this process, and remove anything that looks suspect. Discard cloves with unhealthy looking basal plates, with dents or lesions on or under the wrapper leaf, and any cloves that feel unusually light. Do not compost these cloves---either bury them away from the field or throw them away.
- 3) **Treat all seed with a surface sterilizer:** Sterilizing the surface of the cloves will NOT control GBN! However, it will reduce issues with surface molds such as aspergillus and will kill surface penicillium. This is a best practice for all garlic. You can either use a 10% commercial bleach solution (1 part bleach and 9 parts water) or you can use an OxiDate dip (32 oz per 25 gallons water). Remember to test bleach and OxiDate dips for activity if treating large amounts of seed, and replace solution when activity decreases. Plant cloves immediately after dipping, not after they have dried back out.
- 4) **Optimize pre-planting soil fertility:** All phosphorus and potassium should be applied at planting. Slow release organic forms of N such as alfalfa and soybean meal can be applied at planting. Quick release synthetic or soluble forms of N should be reserved for use in the spring. Optimum fertility and soil conditioning will help keep garlic healthy, and healthy garlic will withstand everything from GBN to Fusarium better than stressed, unhealthy garlic.

- 5) **Next year, watch new seed closely:** During the growing season, cull suspicious looking plants and have them tested for GBN. Selecting the most suspicious plants gives you the highest probability of detecting GBN, if present. If a seed certification program is developed, farm inspectors will take this step for you. Until then, you can act as your own informal inspector.
- 6) **If the seed turns out to be positive** you can still sell it as food. Use your planting maps to help you avoid planting the area with infested seed into any allium for four years. This is a best practice for garlic in general, so if you can move the whole garlic planting out of alliums for four years that is the best option. After that time you should be able to safely plant garlic back into that ground.