



Planting Small Grains for Spring Vegetable Windbreaks

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Small grain windbreaks are a useful tool in the earliest spring plantings of warm season vegetables such as watermelons, cantaloupes, summer squash and tomatoes.

Rye has been the preferred small grain for windbreaks because tall types are still available, and it elongates early in the spring. While barley is also early, tall varieties are not generally available.

Windbreaks provide multiple benefits that promote establishment and growth in transplants:

- Protect transplants from direct wind damage (whipping, tearing, shredding, and breaking stems and leaves).
- Reduce or eliminate “sandblasting” in sandy soils where fine sand particles are picked up by the wind. Sandblasting can severely damage young plants by shredding leaves and cutting stems.
- Reduce transpiration losses in young transplants thus reducing losses to wilting and desiccation.
- Reduce convectional heat losses from the soil, thus providing a warmer environment for early growth.

Small grain windbreaks are typically used in combination with plastic mulch. In plasticulture systems, windbreaks can be planted in drive rows, in between every bed, or between only some beds. Maximum protection and earliness are achieved when windbreaks are used between each black plastic mulch bed.

Even in situations where plastic mulch is not used, windbreaks can still be maintained in drive rows or around plantings to protect seedlings from damage. In no-till or strip till systems using rye cover crops or mixtures with rye, windbreaks can be left in the field

by rolling some areas and leaving others unrolled as a windbreak. East to west orientation of windbreaks is preferred to reduce shading.



Rye windbreaks between every row of black plastic mulch

Setting up windbreaks can be done in several ways. A simple method is to plant the field solid with the small grain and then till planting strips using a narrow tillage device (tractor mounted rototiller or multiple passes with a narrow field cultivator) in the spring before it puts on much growth. Tilling bed strips is best done in March. Alternatively, a non-selective herbicide can be used to kill strips in the late winter or early spring and then tilled later.

Another method is to set up grain drills to plant 2 or 3 rows of small grain and then block the seed meters to skip the area where the beds will be in the spring. This allows more flexibility in the spring for tilling beds because there is less vegetation to manage.

It is best to plant windbreaks early in the fall to get good fall tillering. The last week in September or first week in October is ideal for most of Delaware and mid to upper Delmarva. Rye can be planted later but spring growth will be delayed, and tillering may be reduced. You should plant at standard rates or higher (120 lbs./acre equivalent or more) for the most

effective windbreaks. Higher seeding rates should be considered when planting late.

In the spring, timing windbreak growth termination is also important. All rye windbreaks should be killed using a non-selective herbicide before viable seed is produced, otherwise volunteer grain will come up in later crops.

Another caution on using windbreaks is that they can build up other pests such as mites, and when killed may serve as a reservoir to infest vegetable plantings (a common problem is mites moving out of windbreaks into watermelons). Therefore, fields with windbreaks should be monitored closely for these pests and treated accordingly.

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