



Planting Pumpkins

Pumpkin can be direct seeded or transplanted. Since the soil tends to warm up slowly in early spring, direct seeded pumpkin seedlings may be slower to establish compared to transplants. Transplants can also ensure good stand establishment where rodents are a problem. Plant at recommended spacing depending on the variety.

Weed Control

Control weeds along the strips where pumpkins are planted using both pre-emergence and post-emergence herbicides recommended in the current version of Midwest Vegetable Production Guide for Commercial Growers. Hand hoeing may be needed to get rid of weeds that escape along the pumpkin rows before vines cover the ground. The high residue rye mulch will smother most of the weeds but some that emerge through the rye mulch can be controlled by spot spraying or hand hoeing.

Soil Moisture Management

Ensure that plants get adequate moisture. You can monitor soil moisture status by using tensiometers or other equipments. Plants can be water stressed particularly if there is a dry spell early in the season when plants are still very small. You can irrigate when needed.

Petiole Sap Nitrate

It is equally important to monitor plant nutrient status. In pumpkin production it is recommended that fertilizers be applied before planting and plants are sidedressed when the vines begin to run. It is very important to monitor nitrogen nutrition status of the crop using recommended techniques and fertigate or sidedress when needed.

Pumpkin Yield

Rye cover crop may lead to reduction in pumpkin fruit number, weight, and size compared to pumpkins grown on bare ground but this depends on variety and production practices used. The reduction can be compensated by using production practices such as plastic mulch and irrigation that ensure optimal plant growth, and controlling insect pests and diseases.

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Disclaimer: Any opinions, findings, and conclusions or recommendations expressed in this presentation are those of the author and do not necessarily reflect the views of the Illinois Department of Agriculture.



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Strip Till Pumpkin Production Using Rye Cover Crop



Background Information

Grain rye (*Secale cereale*) is one of the cover crops used by many growers in the Midwest. Rye is planted after harvesting crops in fall. It accumulates a lot of biomass in early spring and the mulch has allelopathic property that inhibit germination of weed seeds. Rye mulch can be used for weed control in pumpkin production. The mulch also forms a barrier between pumpkin fruit and soil.

Seeding Rye

Grain rye need to be seeded at the rates of 90—120 lbs/acre in fall before October 15. The whole field can be either seeded or 6-ft wide strips seeded and 1-5 ft wide bare ground left between the strips. The bare strip can be tilled in spring before planting pumpkins. Rye becomes dormant in winter and resumes growth in as soon as the ground warms up. It grows very rapidly during April and early May in northern Illinois reaching a height of 5-ft or more. At this stage, flower head develops and will not grow any taller.

Equipment Needs

Integrating rye cover crop in pumpkin and other vegetable production systems may need new equipments or modification of existing equipments. The equipments are needed for seeding rye, rolling or flail mowing, tilling strips between rolled areas, or no-till planting in rye mulch.

Managing Rye

Rye grows very aggressively in early spring and need to be managed on time before flower head is pollinated. In conventional systems, rye used as a green manure crop is plowed under when it is still in a tender stage (5-12 inches tall) so that it can decompose before the desired crop is planted. Rye used for high residue mulch production is killed at flower head formation stage in order to provide adequate mulch for weed control. At this stage, rye can be managed by mowing or breaking the stalks by rolling with little re-growth. Do not let it go to seed as this will lead to reseeding. It can also be managed using herbicides but follow label directions and apply it when rye is at the right growth stage.

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