

## FALL VEGETABLE GARDENS

Fall is an excellent time for gardening in Kansas. This season is often overlooked in garden planning. A supply of fresh vegetables late in the year extends the gardening season, and the quality of many vegetables is better for fresh use and preserving. Vegetables maturing in the cool, crisp days of fall are often better flavored than those maturing in the hot, dry days of late spring and summer. Many vegetables can be left in the garden and used as needed into the winter months.

### What to plant

Space available and preference will influence the choice of crops to plant for fall production. With attention to watering and pest control, many vegetables that are already growing in the garden will continue to produce into the fall months. Some of these crops are tomatoes, okra, peppers, New Zealand spinach, eggplant, and sweetpotatoes.

Crops that are best adapted to fall culture are mainly the cool-season crops, although cucumbers, summer squash, and beans can be grown as fall crops.

Peas aren't adaptable. Most spring vegetables are adaptable to fall gardening, but many Kansas gardeners report little success in growing fall peas. Peas require cool temperatures for germination and do not seem to adapt to the warmer temperatures of the summer planting period. You may want to try peas--particularly snow peas--in a mid-to-late August planting, but don't expect complete success.

Cabbage, broccoli, cauliflower, and Brussels sprouts make excellent fall crops. Plant seed rather than transplants. When young plants are 0.5-0.75 inch tall, thin them to one plant per foot of row.

Beets and carrots require adequate moisture until they emerge. A light cover of sand or compost over the row may prevent soil crusting and improve emergence.

Freshly cut potato seed pieces will rot easily in warm summer soils. Seed should be cut 3-4 days prior to planting and held at room temperature to heal over. This will prevent seed piece decay. Various types of lettuce may experience a marginal leaf burn with a light frost. The center leaves may escape damage, allowing lettuce--especially bibb or head--to remain past the first frost forecasted.

Many gardeners report success in "overwintering" spinach and kales by using leaves in the fall without harvesting the entire plant. A light mulching through the winter should keep the plants alive to begin growth in the spring without replanting a new crop.

## **When to plant**

Planting dates are influenced by how long it takes the crop to develop and how tolerant the crop is of first frosts or freezes. Crops such as potatoes or cabbage require a long period of development, thus a mid-July planting date, while crops such as lettuce or radishes can be planted in early September.

Although it is difficult to predict an exact date, the average first frost in the fall occurs in mid- October in most of central and eastern Kansas. It may occur several weeks earlier in northwestern Kansas and several weeks later in southeastern Kansas.

## **Fertilizing and soil preparation**

Planting in space used for spring production may require additional fertilizer to support fall crops. Large quantities of fertilizer may damage tender young plants, so use it sparingly at this time of the year. In general, 1-2 lbs/100 square feet of a low-analysis, all-purpose garden fertilizer should be sufficient to produce a successful crop.

Although adding organic matter is an excellent practice, it is not a good idea to add quantities prior to fall planting because this may loosen and dry out soils at a critical time. Save your organic matter for a late fall application.

Extensive soil preparation probably will not be needed for fall planting. Avoid deep tillage because it may dry out soil moisture. A light surface cultivation will loosen the soil to prepare the seedbed.

Additional amounts of fertilizer may be needed later in the season to ensure maximum plant growth and production. Cabbage, broccoli, cauliflower, collards, and kale, plus lettuce, mustard, spinach, and turnip greens will require about 4 tablespoons of a high-nitrogen all-purpose garden fertilizer per 10 feet of row. It should be sprinkled along the row about 2 weeks after transplanting, or 4 weeks after sowing the seed. This will ensure lush vegetative growth prior to crop development during the cooler fall weather. Other vegetable crops probably will not require any additional fertilization.

## **Establishing vegetables in summer heat**

Fall gardeners will find that establishing a garden during the summer when soil temperatures are extremely high is difficult. One way to avoid seeding in extremely adverse conditions is to establish plants in containers or pots for transplanting to the garden later in the season as the weather begins to cool. Crops such as cabbage, broccoli, cauliflower, Chinese cabbage, and collards can be grown in a cooler protected area, or under lights in a basement growing area for 2-4 weeks prior to setting in the garden. It is important to climatize the crops for several days before transplanting directly in the garden. Place the flats in the direct sun, and providing adequate water for 2-4 days to allow the plants to become accustomed to the stronger winds, hot sun, and the harsh environment of the summer garden.

Crops that are seeded directly should be planted slightly deeper than they would be for a spring garden. This has two benefits; it provides a slight cooling effect, as well as more moisture available at the deeper soil depth. It is probably wise to plant more seed than necessary, and do some thinning later to ensure an adequate stand. With frequent watering and heavy tight soils, a crust may form in planting fall gardens. This can be overcome by a light sprinkling of peat moss, vermiculite, or compost directly over the row.

## **Watering**

As in the usual gardening season, the availability of water can influence the success of fall gardening in Kansas. Many areas of the state receive adequate rainfall for successful gardening from late August through September and October. However, trying to establish young seedlings in high temperatures during July to mid-August is difficult without a readily available source of water. Many vegetables can develop a tolerance to a hot temperature, but they cannot tolerate a lack of sufficient soil moisture and cannot germinate without it.

## **As the fall garden grows**

Fall gardening requires no special cultural techniques. Weeds may develop, requiring cultivation. The use of mulches is helpful in con-serving moisture and reducing weed and disease problems. Insect and disease pests may require specific control measures, but these are situations that can develop in any garden.

## **Frost and freezes**

The first frost in the fall will damage some frost sensitive crops. Others may be slightly damaged but will continue to grow for several weeks until a severe freeze kills them. Other crops are hardy and will stand fairly low temperatures. These can be used into the winter months as needed.

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