A well-planned, properly tended vegetable garden not only provides an excellent source of fresh, nutritious vegetables, but also relaxation and enjoyment for the entire family. With a few simple tools, a little space, and a desire to nurture plant growth, anyone can create a thriving vegetable garden. Even a 100 -square-foot garden can produce a good portion of the vegetables for a family of four.

Successful gardening begins with proper planning. This includes knowing how much to plant, when to plant, and proper spacing, covered on the following pages. For more on this and other home gardening topics, see the Kansas Garden Guide (S51).

Vegetable Yields

| Vegetables | Average crop expected per 10 feet | Approximate planting per person | Vegetables | Average crop expected per 10 feet | Approximate planting per person |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Asparagus | 3 lb . | 10-15 plants | Muskmelon (cantaloupe) | 10 fruits | 3-5 hills |
| Beans, snap bush | 12 lb . | 15-16 feet | Mustard | 10 lb . | 5-10 feet |
| Beans, snap pole | 15 lb . | 5-6 feet | Okra | 10 lb . | 4-6 feet |
| Beans, lima bush | 2.5 lb . shelled | 10-15 feet | Onions (plants or sets) | 10 lb . | 3-5 feet |
| Beans, lima pole | 5 lb . shelled | 5-6feet | Onions (seed) | 10 lb . | 3-5 feet |
| Beets | 15 lb . | 5-10 feet | Parsley | 3 lb . | 1-3 feet |
| Broccoli | 10 lb . | 3-5 plants | Parsnips | 10 lb . | 5 feet |
| Brussels sprouts | 7.5 lb . | 2-5 plants | Peas, English | 2 lb . | 15-20 feet |
| Cabbage | 15 lb . | 3-4 plants | Peas, southern | 4 lb . | 10-15 feet |
| Cabbage, Chinese | 8 heads | 3-10 feet | Peppers | 6 lb . | 3-5 plants |
| Carrots | 10 lb . | 5-10 feet | Potatoes, Irish | 10 lb . | 50-100 feet |
| Cauliflower | 10 lb . | 3-5 plants | Potatoes, sweet | 10 lb . | 5-10 plants |
| Celeriac | 6 lb . | 5 feet | Pumpkins | 10 lb . | 1-2 hills |
| Celery | 18 stalks | 10 stalks | Radishes | 10 bunches | 3-5 feet |
| Chard, Swiss | 7.5 lb . | $3-5$ plants | Salsify | 10 lb . | 5 feet |
| Collards and kale | 10 lb . | 5-10 feet | Soybeans | 2 lb . | 50 feet |
| Corn, sweet | 1 dozen | 10-15 feet | Spinach | $4-5 \mathrm{lb}$. | 5-10 feet |
| Cucumbers | 12 lb . | 1-2 hills | Squash, summer | 15 lb . | 2-3 hills |
| Eggplant | 10 lb . | 2-3 plants | Squash, winter | 10 lb . | 1-3 hills |
| Garlic | 4 lb . | 1-5 feet | Tomatoes | 10 lb . | 3-5 plants |
| Kohlrabi | 7.5 lb . | 3-5 feet | Turnip greens | $5-10 \mathrm{lb}$. | 5-10 feet |
| Lettuce, head | 10 heads | 10 feet | Turnip roots | $5-10 \mathrm{lb}$. | 5-10 feet |
| Lettuce, leaf | 5 lb . | 10 feet | Watermelon | 4 fruit | 2-4 hills |

Vegetable Crop Information

| Crop | Type of Planting | Days to First Harvest | Plants or Seeds Per 10' Row ${ }^{1}$ | Days to Germinate | Optimum Temperature (F) | Depth of Planting (In.) | Avg. Spacing Within Row (In.) | Avg. Spacing Between Rows (In.) | Frost Resistance ${ }^{4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asparagus | Perennial: Crowns | 2nd Season | 7 | - | - | 8 | 18 | 48 | Hardy |
| Asparagus | Seed: Transplant | 4th Season | 150 | 10-20 | 65-75 | 1 | 3 | 6 | Hardy |
| Rhubarb | Perennial: Crowns | 2nd Season | 3 | - | - | 1 | 36 | 35-48 | Hardy |
| Beans, Snap | Seeded | 50-60 | 50 | 5-8 | 70-85 | 2 | 3-4 | 36 | Tender |
| Beans, Lima | Seeded | 65-75 | 40 | 5-8 | 75-85 | 2 | 4-8 | 36 | Tender |
| Beets | Seeded | 55-65 | 40 | 7-10 | 50-60 | 1/2 | 2-4 | 18 | Half-Hardy |
| Broccoli | Transplant | $60-80^{2}$ | 7 | (6-8) | (50-60) | $(1 / 2)$ | 18-24 | 36 | Hardy |
| Brussels Sprouts | Transplant | 85-95 ${ }^{2}$ | 10 | (6-8) | (50-60) | $(1 / 2)$ | 12-18 | 36 | Hardy |
| Cabbage | Transplant | 65-802 | 7 | (6-8) | (50-60) | $(1 / 2)$ | 12-18 | 36 | Hardy |
| Chinese Cabbage | Seeded | 80-90 | 30 | 5-7 | 55-70 | 1/2 | 10-12 | 36 | Hardy |
| Carrots | Seeded | 70-80 | 150 | 10-12 | 55-70 | 1/2 | 2-3 | 18 | Half-Hardy |
| Cauliflower | Transplant | $85-100^{2}$ | 7 | (6-8) | (55-70) | $(1 / 2)$ | 18-24 | 36 | Half-Hardy |
| Cucumbers | Seed or Plants | 60-65 | 10 or 6 | 5-8 | 75-85 | $1 / 2-1$ | 24 | 36-72 | Very Tender |
| Eggplant | Transplants | 75-902 | 5 | (8-12) | (75-85) | - | 18-24 | 36 | Very Tender |
| Garlic | Sets | 140-160 | 3 to 7 | - | - | 1 | 4-6 | 18-36 | Hardy |
| Horseradish | Roots | Fall | 7-10 roots | - | - | 3-4 | 12-18 | 36 | Hardy |
| Kale | Seeded | 60-90 | 120 | 6-9 | 50-60 | 1/2 | 12 | 36 | Hardy |
| Kohlrabi | Seed or Transplant | 60-75 ${ }^{2}$ | $40-60$ or 20 | (6-8) | (50-60) | $(1 / 2)$ | 5-6 | 18-24 | Hardy |
| Lettuce, Seed | Seeded | 45-50 | 120 | 6-8 | 50-70 | $1 / 4$ | 2-4 | 18-24 | Half-Hardy |
| Lettuce, Plants | Transplants | 35-45 | 10-20 plants | (6-8) | (50-70) | $(1 / 4)$ | 6-12 | 18-24 | Half-Hardy |
| Lettuce, Head | Transplants | 60-85 ${ }^{2}$ | 7-10 | 6-8 | 60-70 | 1/2 | 12-15 | 18-24 | Half-Hardy |
| Muskmelon ${ }^{3}$ | Seed or Plants | 80-90 | 15 or 7-10 | 7-12 | 75-85 | $1-1 / \frac{1}{2}$ | 48-72 | 48-72 or | Very Tender |
| Mustard | Seeded | 50-60 | 120 | 6-8 | 50-60 | 1/2 | 2-4 | 12-18 | Hardy |
| Onion, Sets | Sets | 100-120 | 30 | - | - | $11 / 2-2$ | 3-4 | 12-24 | Hardy |
| Onion, Plants | Transplants | 100-120 | 25-30 | - | - | $11 / 2-2$ | 3-5 | 12-24 | Hardy |
| Okra | Seeded | 50-60 | 40 | 6-12 | 75-85 | 1/2 | 18-24 | 36 | Tender |
| Parsley | Seeded | 60-70 | 100-150 | 8-10 | 55-70 | 1/2 | 2-4 | 12-18 | Half-Hardy |
| Parsnip | Seeded | Fall | 240 | 10-12 | 55-70 | $1 / 4-1 / 2$ | 3-4 | 18-24 | Half-Hardy |
| Peas | Seeded | 60-80 | 100-120 | 7-10 | 50-65 | 2 | 1-2 | Don't thin | Hardy |
| Peppers | Transplants | $65-80^{2}$ | 5-7 plants | (10-14) | (75-85) | $(1 / 2)$ | 18-24 | 36 | Tender |
| Potatoes | Tuber Pieces | 70-90 | 1 lb. | - | 50-60 | 2-3 | 8-12 | 36 | Half-Hardy |
| Pumpkin ${ }^{3}$ | Seeded | 110-130 | 8 | 7-10 | 75-85 | 1 | 72-96 | 84-120 | Half-Tender |
| Radish | Seeded | 25-30 | 100-150 | 4-6 | 50-60 | 1/2 | 2-3 | 12-18 | Hardy |
| Rutabaga | Seeded | 90-120 | 40-60 | 5-10 | 50-60 | 1/2 | 4-6 | 18-24 | Hardy |
| Salsify | Seeded | 140-150 | 100-120 | 8-12 | 55-70 | 1/2 | 2-3 | 12-18 | Half-Hardy |
| Spinach | Seeded | 40-45 | 120-150 | 9-12 | 55-70 | 1 | 2-3 | 12-18 | Half-Hardy |
| Squash, Summer | Seeded | 50-55 | 20-30 | 7-10 | 75-85 | 1 | 18-24 | 48-72 | Very Tender |
| Squash, Winter | Seeded | 50-55 | 10-20 | 7-10 | 75-85 | 1 | 24-36 | 96 | Very Tender |
| Sweet Corn | Seeded | 80-100 | 10-20 | 6-8 | 70-80 | 2 | 9-12 | 36 | Tender |
| Sweet Potatoes | Plants | 130-140 ${ }^{2}$ | 7-10 plants | - | - | - | 12-18 | 36-48 | Very Tender |
| Swiss Chard | Seeded | 50-60 | 120 | 9-12 | 55-70 | 1/2-1 | 6-8 | 18-24 | Half-Tender |
| Tomato | Transplants | 70-85 ${ }^{2}$ | 3-6 plants | (7-10) | (75-85) | $(1 / 2)$ | 24-48 | 36-48 | Tender |
| Turnips | Seeded | 45-65 | 60-80 | 5-10 | 60-70 | $1 / 2$ | 3-4 | 12-18 | Hardy |
| Watermelon ${ }^{3}$ | Seeded | 80-90 | 6-8 | 8-12 | 80-90 | 1-2 | 72-96 | 72-96 | Very Tender |

( ) = Seeding information for hotbed or greenhouse; allow 6 to 8 weeks in hotbed or greenhouse.
${ }^{1}$ Seeded plants may need to be thinned to recommended spacing.
${ }^{2}$ From date of transplanting
${ }^{3}$ Seed planted in hills with 4 to 5 seeds per hill. Thin to 2 to 3 plants per hill. Spacing is distance between hills.
${ }^{4}$ Frost Resistance - Hardy: Damaged when temperatures reach the low 20s. Half-Hardy: Damaged when temperatures reach the mid- to upper-20s. Tender: Damaged by frost. Very tender: A week of daytime temperatures below 55 degrees F can stunt the crop.


| Symptom | Possible Causes | Corrective Measures |
| :--- | :--- | :--- |
| Plants stunted in growth; <br> yellow color | Lack of soil fertility or abnormal soil pH | Fertilize and correct pH according to soil test. Use 3 to <br> 4 pounds of fertilizer per 100 square feet in absence of <br> soil test. |
|  | Plants growing in compacted, poorly-drained soil. <br> Insect or disease damage |  |
|  | Modify soil with organic matter. |  |
| Use a regular spray or dust program. |  |  |
| Use high-quality seed or plants of recommended |  |  |
| varieties. |  |  |

*Learn more about common vegetable problems at the Horticulture Information Center.

## Tips for a Successful Home Garden

- Use mulches to conserve moisture, control weeds, and reduce rots.
- Keep plants free of insects and diseases.
- Examine plants often to keep ahead of potential problems.
- Keep weeds out.
- Remove tomato suckers when they form (1 to 2 inches long.
- Sample soil and have it tested every three to four years.
- Apply fertilizer to garden area as recommended. See Fertilizing Gardens in Kansas (MF2320).
- Thin when plants are small.
- Avoid walking and working in the garden when the foliage and soil are wet.
- Wash and clean the sprayer well after each use.


## Ward Upham, Horticulturist

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