Chinese Cabbage (Brassica rapa var. pekinensis)
#3643 Red Dragon (F1) Red Chinese Cabbage

‘Red Dragon’, developed under the name KN-RCC-3, is the first red Chinese cabbage to be successfully grown in North America. Although it is grown in a similar method as green Chinese cabbage, it is more difficult to grow and has specific needs.

SITE SELECTION/CROP CARE:
Chinese cabbage produces the best crops when planted in full sun, in well-drained, fertile soil with a pH of 6.0–7.5. To maintain steady growth, the crop should be well fertilized and irrigated in dry weather; plants should be provided the equivalent of 1 inch of water per week.

Important: It is crucial that transplanting is done at the proper time and internal tipburn is managed with applications of foliar calcium. The amount of available calcium in your soil may also have an impact on internal tipburn. Recommendations for transplant dates and tipburn management can be found below.

TRANSPLANTING:
Chinese cabbage performs best in the gradually decreasing day length and temperatures of late summer. Spring-planted crops require extra maintenance to prevent bolting.

Following the recommended transplant dates and temperatures below, sow 2 seeds per cell in 72-cell plug flats, ¼ inch deep. Ensure good light and keep temperatures at 75–85°F/24–30°C until germination, and then reduce air temperature to 60–70°F/16–21°C. Transplant to the field when seedlings are 3–5 weeks old, taking care not to disturb the roots. Space plants every 12–18 inches, in rows 18–30 inches apart.

TRANSPLANTING DATES:
Red Dragon is more sensitive to high temperatures when forming heads than green varieties of Chinese cabbage. If seedlings are repeatedly exposed to temperatures above 80°F/27°C during the period of head formation (6–8 weeks post-transplant), head formation can be impeded or prevented. The exact timing of transplanting depends on the planned season of harvest.

Spring sowing for summer crops:
Start seedlings 3–5 weeks prior to your last frost date. Transplant only after the last frost has occurred. Seedlings exposed to frost or more than a week of sub-50°F/10°C nights may bolt prematurely.

Summer sowing for fall crops:
Start seedlings 3–5 weeks prior to when maximum daily temperatures begin to decline. Temperatures exceeding 80°F/27°C in the first 6 weeks post-transplanting do not appear to affect head formation. Ideally, transplanting is timed so that the following temperature regime can be met:

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<tr>
<td>1–4</td>
<td>50°F/10°C</td>
<td>82°F/28°C</td>
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<tr>
<td>4–6</td>
<td>50°F/10°C</td>
<td>73°F/23°C</td>
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<tr>
<td>6–8</td>
<td>40°F/4°C</td>
<td>70°F/21°C</td>
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TIPBURN MANAGEMENT:
‘Red Dragon’ is much more susceptible to internal tipburn than green varieties. It begins with browning and eventual decay of inner leaves. Tipburn is more pronounced during hot dry periods but can occur at any time during the growing season. The only way to diagnose internal tipburn is to cut open the head.

In Korea, where ‘Red Dragon’ was bred, tipburn has been managed by applying foliar calcium 3 times during the growing period. Calcium applications should be applied 25, 30, and 35 days post-transplanting. It is critical to apply before the heads form; once the heads form the spray cannot reach the inner leaves of the head and will be ineffective.

The recommended application rate is 200 parts per million (ppm). Nutri-Cal Concentrate, which is available in the United States, is a suitable source of calcium to be used in a foliar spray. Since it is a concentrated liquid, it needs to be diluted prior to application. To achieve 200 ppm, use 2⅔ teaspoons of Nutri-Cal per gallon of water or 3⅓ milliliters per liter of water. Other calcium-based products suitable for foliar application may also be used.

Note: Foliar calcium reduces but does not eliminate the possibility of tipburn.

At the Johnny’s Research Farm, we have had success growing crops without a foliar calcium spray, but using it does reduce the likelihood of tipburn.

DISEASES:
To control diseases, adhere strictly to a preventative program that includes long crop rotations, at least 3 years, with non-cruciferous crops, clean starting mixes, and strict sanitation practices. Should disease occur in your crop, have an infected specimen tested to positively identify the disease.

A common disease of Chinese cabbage is black rot, identified by yellow lesions on the leaves in its earliest stages. As the disease progresses, the affected leaves may die and turn brown to black. Applications of copper fungicides may offer some control. Black rot can be seed borne; Johnny’s only stocks seeds lots that have been tested free of black rot in a sample of 30,000 seeds.

PESTS:
The best insect pest control on young plants is the use of floating row covers, which prevents the insects’ access to the plants. Put row covers in place on the day of transplanting. If heavy pressure from flea beetles is observed, treat with azadirachtin or pyrethrin. Cabbage worms can be controlled with Bacillus thuringiensis (B.t.). The presence of cutworms can be prevented by cultivating the soil 2–4 weeks before transplanting seedlings to work in any cover crops and destroy weeds.

HARVEST AND STORAGE:
Heads can be harvested 9–10 weeks post-transplant. Cut heads when very firm. A light frost, 32°F/0°C, does not damage the heads of a fall crop, but it should be harvested before a heavy frost, 24°F/-4°C.

Heads can store for 1-2 month in near-freezing, humid conditions, such as a cooler or root cellar, if trimmed and wrapped in newspaper.