SOLUTIONS IN THE LAND

CROP PROFILE

COMFREY

Symphytum officinale
Member of the Boraginaceae family

History

Comfrey (Symphytum spp.) is native to Europe and Asia. Russian, or blue comfrey (S. × uplandicum), is a natural hybrid of S. officinale and S. asperum originating in the Caucasus region. Introduced to Canada in 1954, it became known as Quaker comfrey after Henry Doubleday, the British researcher who promoted comfrey as a food and forage. Most comfrey grown in the United States today can be traced to this introduction.

Climate Needs

Comfrey yields best in full sunlight and cooler temperatures. Its deep roots allow leaves to remain turgid during drought, and the crop is highly frost-resistant.

Comfrey Description

Comfrey is a herbaceous perennial that produces foliage from late May until hard frosts. It begins growth in early April as a basal rosette, then grows rapidly upright, reaching over 3ft tall with large, lance-shaped, hairy leaves. A deep, thick, tuberous root system extends several feet into the soil, allowing comfrey to accumulate minerals and nutrients, including high levels of nitrogen, phosphorus, and potassium, from deep soil layers. Comfrey dry matter contains high protein levels (15–30%). Flowering begins in late May or early June and continues through fall, with bell-shaped flowers borne in clusters. Vegetative growth continues through flowering and crowns and roots are highly winter-hardy in northern Midwestern climates.

Soil

Comfrey is adaptable to a wide range of soils but performs best in moist, fertile conditions. It yields poorly on thin soils over rock but is productive on sandy or loamy soils when adequate nutrients are available. While it tolerates a wide range of soil pH, highest yields occur at pH 6.0–7.0. Soil should be tilled and cleared of annual and perennial weeds before planting. Removing established comfrey stands can be difficult; repeated tillage or deep moldboard plowing in early fall, followed by additional tillage can help expose roots to winter drying and freezing.

Risk

It can become invasive if not managed properly, spreading through root cuttings and crown divisions. Established plants are difficult to remove, often requiring repeated tillage or deep plowing. Comfrey also accumulates high levels of certain minerals, so over-reliance on it as forage can cause nutritional imbalances in livestock. Additionally, its leaves contain small amounts of pyrrolizidine alkaloids, which can be toxic in large quantities if fed continuously.

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Seeding

Comfrey is propagated from root cuttings, crown divisions, or transplants. First-year production is highest from transplants and lowest from root cuttings. Root cuttings are the most commonly used method; typically 6–12 inches long and ⅜–¾ inch in diameter. Wilted cuttings should be soaked in cold water before planting. Root cuttings usually develop shoots within 3–6 weeks, while crown divisions emerge in about 10 days. Planting is best in April or as soon as the soil can be worked. Root cuttings should be planted before September, and transplants or crown divisions by early October, allowing sufficient establishment before winter. Root cuttings should be laid flat and planted 2–4 inches deep. Transplants should be set upright with crowns about 2 inches deep. Comfrey is commonly planted in a checkerboard pattern with rows spaced 3–4 ft apart to allow cultivation and weed control, although closer spacing may increase yields.

Pest & Disease Managment

Comfrey has not experienced severe disease or insect problems in the United States.

Highlights

Comfrey is a deep-rooted perennial whose long taproots access nutrients and water from deep soil, making it highly drought-resistant. These roots also enrich the soil by bringing minerals to the surface.

Fertility

Comfrey is a high-protein forage that obtains all of its nitrogen from the soil rather than through nitrogen fixation. Older stands with pale green leaves often require supplemental nitrogen at rates of 40–100lb N/acre, depending on soil organic matter. Barnyard manure is an effective nutrient source.

Weed Control

Comfrey is a strong weed competitor due to its rapid, dense growth, but weeds may establish between plants if it is harvested multiple times during a growing season. Mechanical control, such as rototilling between plants, is often effective, with two cultivations per year typically sufficient. Chemical control is uncommon, as no herbicides are labeled for comfrey in the Upper Midwest.

Harvest

Established comfrey can be harvested 2–5 times per year under ideal conditions, starting when plants reach about 2½ ft tall. For newly planted comfrey, allow maximum growth before flowering to aid establishment, cutting only dying stems or making a single mid-June cut to prevent flowering. All comfrey should receive a final cut in autumn, no later than mid-September, followed by fertilization to build winter reserves. Any growth after this cut should be left in place to wither naturally. Stems should be cut close to the base, about 2 inches above soil, taking care not to damage new shoots; young stems up to 6 inches can be left to continue growing after harvest.

Cleaning & Storage

Drying comfrey for hay or medicinal use is challenging, as it requires at least three days of dry weather and leaves may become soiled when left on the ground. Leaves can also dry spread out in open areas. Though they may darken, they remain acceptable as livestock forage. For silage, comfrey should be cut and wilted for at least 24 hours. Additives such as molasses or grain can improve quality, and mixing up to 25% comfrey with small-grain or corn forage provides an economical method for producing high-quality silage.

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Rating any crop's production opportunity or risk is subjective and depends on the region where the crop is to be raised. Genetic advancement for pathogen tolerance and adverse weather condition has been more significant for popular, high seed sales crops such as corn and soybeans. The below table lists some of the issues of producing specific crops and helps guide your process of selecting your cropping choice.

Average rating: 3.26

Issue	1	2	3	4	5
Seed availability				X	
Scouting requirements				X	
Drought tolerance				X	
Waterlogged soil tolerance			X		
Disease pressure				X	
Wildlife concerns			X		
Yield swings			X		
Harvest ability		X			
Field loss				X	
Market demand			X		
Soil regeneration				X	
Residue value			X		
Storability				X	
Benefit for following crop				X	

1- very low 2- low 3- average 4- moderately high 5- very high

Seed availability – Price, lead time, and required lot size are consideration for these issues
Scouting requirements – What frequency does someone need to look at the crop?
Drought tolerance – Rainfall patterns are requiring crops go longer between rainfall events.
Waterlogged soil tolerance – Rainfall events tend to produce higher volumes than historical averages.
Disease pressure – Plant stress has increased with the rise of daytime temperatures
Wildlife concerns – Deer, rabbits, voles, resident geese, and others can destroy fragile crops.
Yield swings – How predictable will the income be when this crop goes to market?
Harvest ability – Do we need plans B & C if adverse conditions affect the harvest?
Field loss – How much will be left in the field and can we monetize field loss?
Market demand – Does this crop have an elastic delivery window and are there timing penalties?
Profitability – Is there potential for higher margins needed for a shrinking land base?
Soil regeneration – Does this crop support the next crop?
Residue value – What remains after the target crop? Can we monetize the residue?
Storability – How long can we hold this crop? Will quality be challenging to maintain?