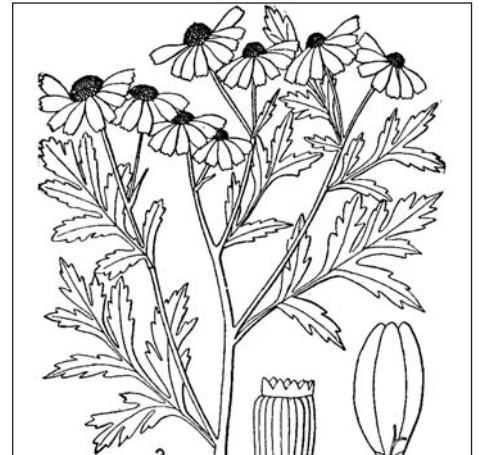


A Grower's Guide

Feverfew

Tanacetum parthenium

With a name like feverfew, you would expect this herb to have something to do with colds, the flu or some other contagious ailment. Instead, the name is a corruption of the words “feather few,” which refer to the plant’s fine petals. Historically, this plant was used for various uterine disorders or applied externally to ease headaches. It has been only recently that laboratory research and clinical trials have shown the usefulness of this plant as a prophylactic, or preventative treatment, for migraine headaches.



Family: *Compositae*

Life cycle: Tender herbaceous perennial (Zone 4)

Native: Europe, Balkan Peninsula, escaped from cultivation in North and South America. Widely grown as a garden ornamental and in herb gardens. Highly varied in looks and chemistry.

Height: 1 to 3 feet

Sun: Full sun to partial shade

Soil: Any soil, but prefers a rich, loamy, dry location. Adaptable to a wide variety of soil, grows in wild meadows, roadsides, mountains and rocky soils.

Water: Moderate

Flowers: Daisy-like white flowers with a yellow center. Blooms in midsummer and continues until fall.

Propagation: Stratify seed at least one week before sowing. Plant indoors and transplant later, or plant in the field in mid-spring. Seed needs light to germinate.

Germination will occur within two weeks, and about 70 percent germination rate. Also can propagate through cuttings and root divisions. Space 12 inches apart in the row. Feverfew reseeds readily.

Pests: Trials in Iowa identified several pests, including aphids, aster yellow disease, fusarium crown rot, root rot, and septoria leaf spot. Kansas researchers observed few insect or disease problems, but a few plants were infected with aster yellows and had poor overwintering ability.

Harvesting: Harvest aerial parts or flowers only, usually the top 6 to 8 inches of the plant. Some prefer to use the leaf because more research has been done on leaf tissues.

Parts used: Leaves and flowering aerial parts, fresh or dried

Used as: Tincture, infusion (tea), powder in capsules, syrup, medicinal food (fresh leaf)

Medicinal benefits: Feverfew has a long history and good reputation as a medicinal herb, and recent research has validated its usefulness to treat migraine headaches, at least for some individuals. Several double-blind, placebo-controlled studies determined that dried feverfew capsules were effective in preventing migraine headaches and/or lessening their severity if taken prophylactically (before the headache). Key active compounds have been identified in the plant, and feverfew extracts have been shown to inhibit human blood aggregation and serotonin secretion. Another type of feverfew extract had antispasmodic effects by affecting potassium channels in cell membranes. Feverfew was not effective at treating rheumatoid arthritis, though it has been used in folk medicine for this ailment. Other folk uses of the leaves and flowering heads include as an anti-inflammatory, antispasmodic, emmenagogue, vasodilator and vermifuge. Use the fresh leaves with caution because they can

cause dermatitis and mouth ulcers, especially with frequent exposure.

Market potential: Moderate to high. Prices range from \$6.75 to \$40 per pound (lb) dry weight for herb with flowers. Other growers are getting into this market, and the University of North Carolina is doing research on this herb as a cash/transition crop for former tobacco growers in their state.

Summary of field trial data: Feverfew appears to be well adapted to Kansas conditions during its first year of growth, with

a survival rate of 90 percent for transplants, a vigor rating of 3.7 and gross yield of tops of more than 3,000 lbs/A dry weight. However, winter survival was extremely poor, averaging about 1 percent. The plant easily self seeds, and in some cases we measured the volunteer plants in the second and even third year (data not shown). These plants were smaller than the parent plants and scattered, which would make it difficult to mechanically weed. Though acceptable and desirable in a home garden, these volunteers would not make a cash crop

for a grower. We aren't sure why this plant does not overwinter well, but we got this result at several locations over several years. Kansas sometimes has warm spells in January and February that can trick plants into breaking dormancy and cause suffering from frost and/or wind desiccation damage later. This could be the cause of the problem. This plant may be a viable cash crop if a niche market can be obtained, and if it is treated like an annual crop rather than a perennial. In the home garden, this is a beautiful, tangy, aromatic addition to a flower bed or herb garden.

K-State Field Trial Data 2000-2002 <i>Tanacetum parthenium</i>					
				Average	Comments
Age of plants in years	1	2	3		
Number of test sites¹	8	4	0		
Survival rate (%)	90.0	1.0	—	—	
Vigor rating²	3.7	3.6	—	3.7	
Height (cm)	41.0	50.3	—	45.7	
Dry weight herb (g/plant)	55.7	49.3	—	—	
Dry weight root (g/plant)	16.0	13.7	—	—	
Maturity rating³	4.6	4.6	—	4.6	
Insect damage rating⁴	0.4	0.3	—	0.4	
Disease rating⁵	0.6	0.3	—	0.5	
Estimated planting density (number of plants/A)	29,040	29,040	—	—	Assume 1- by 1.5-ft. spacing.
Plant density⁶	26,136	290	—	—	
kg/acre dry weight (g/plant x plant number) – tops	1,456	14	—	—	
Estimated marketable yield (dry weight lbs/A) – tops	3,207	32	—	—	
Yield x ½ of low price¹	\$10,840	\$108	—	—	
Yield x ½ of high price¹	\$64,140	\$640	—	—	

¹ See "How Data Were Collected," on page 3.

² Vigor rating (1=very poor, 3=slightly above average, 5=very good, well adapted)

³ Maturity rating (1=vegetative, 2=early bud, 3=early flower, 4=full flower, 5=seed production, 6=senescence)

⁴ Insect damage rating (scale of 0 to 5; 0=no damage and 5=severe damage)

⁵ Disease rating (scale of 0 to 5 with 0=no damage and 5=severe damage)

⁶ Calculated as starting plant density x survival rate.

How Data Were Collected

The plants described in this fact sheet were grown in K-State test plots in Hays, Colby, Wichita, or Olathe, Kan. Generally, four replications of each species were included at a site. Not all species were screened at each site or each year. The number of locations is noted in the table. Depending on the location and year, either five or 10 plants per plot were established in each of the replications. Details can be found at www.oznet.ksu.edu/ksherbs. Plants were grown from seed in the greenhouse and transplanted in the field in May or June.

All plants at each location were used to determine survival percentage, vigor rating, insect damage rating, and disease rating as described above. Three plants per plot were measured for height, and only one plant per plot was harvested to measure yield each year. Cultivating four plots allowed us to estimate yield from four plants per species at each location per year.

Plants were dried, and top and root weights recorded in grams. Grams per plant were converted to kilograms per acre (kg/A) and pounds per acre (lb/A) to estimate field-scale yield. The population density used to calculate field yields was the optimal population density (determined by the average size of the plants) times the actual percentage survival as measured in the field. There was generally some loss due to transplant shock and, for some species, significant winter loss as well.

Plant spacing recommendations on each fact sheet are for spacing within a row. Distance between rows will depend on the particular farming operation and equipment used. The minimum row spacing will be the same as the plant spacing recommendation. For example, if the recommendation is to set plants 12 inches apart, rows should be a minimum of 12 inches apart as well. However, if cultivator or root-harvesting equipment is on 5-foot centers, plant rows 5 feet apart to facilitate cultivating and harvesting. Adjust estimated plant density per acre on the worksheets to estimate gross yield and net income.

Prices were taken from Appendix B of K-State Research and Extension publication S-144 *Farming a Few Acres of Herbs: An Herb Growers Handbook*. To calculate a rough gross income potential for each herb, estimated yield was multiplied by the lowest and the highest retail price, divided by two. This is a rough estimate of wholesale price. Actual prices would be determined based on a contract obtained from a buyer.

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