

# A Grower's Guide

# Oregano

*Origanum vulgare*

Oregano is used as both a culinary and medicinal herb. *O. vulgare* is known as oregano, while its cousin *O. majorana* is usually called sweet marjoram. The two are similar in scent. Greek oregano, popular in many dishes, is a subspecies of common oregano, *O. vulgare hirtum*. The dried leaves of oregano are used in many folk remedies, which have not been tested for efficacy. However, the essential oil is a powerful antimicrobial and has been tested and used at K-State to sterilize plant cell cultures in tissue culture experiments. In these trials, oregano oil was as strong as chlorine bleach.



**Family:** *Lamiaceae/Labiatae*

**Life cycle:** Herbaceous/slightly woody perennial (Zones 4-9)

**Native:** Mediterranean region. Enjoys a hot, but not too wet, climate. Common throughout Asia, Europe and northern Africa, and cultivated in gardens in North America.

**Height:** 6 to 24 inches

**Sun:** Full sun preferred, tolerates partial shade.

**Soil:** Well drained is ideal, does not require fertile soil. Responds well to compost or mulch.

**Water:** Low to moderate

**Flowers:** Small white or lavender flowers bloom throughout the summer. Plant tends to have more leaves before and after flowering.

**Propagation:** Stratify seeds for one week and then sow indoors for germination near 70 percent. Seeds take one to two

weeks to sprout. Transplant outside after spring weather has settled. Can also propagate through stem/tip cuttings. Space 12 inches in the row. Plant will bush up, and spread slightly, but it is not a rampant spreader like mints.

**Pests:** No major pests noted in the field plots or in the literature.

**Harvesting:** Clip aboveground portion before full flower. Could be mechanized.

**Parts used:** Aboveground portion, leaves, before or during flowering, and the oil obtained through steam distillation of aboveground parts.

**Used as:** Leaves for infusions (teas), gargles and bath additives. Essential oil for external use only.

**Medicinal benefits:** Oregano is a strong medicinal food that is recommended during winter illnesses and to support healthy digestive system function. Unproven folk medicine uses include treatment for respiratory disorders, coughs, inflammation of

the bronchial mucous membranes and as an expectorant. In China, it is used for colds, fever, vomiting, dysentery, jaundice and malnutrition in children. Oil is strongly antiseptic for the skin.

**Market potential:** Medium, competitive. Prices range from \$3.83 to \$25.42 per pound (lb) dry weight for tops/herb.

**Summary of field trial data:** This plant was grown at Wichita only, and the plot was not replicated, so the data are based on observations of five plants from this plot. However, we felt that it was worth including here because the results were positive (more than 3 tons/A dry weight estimated in the second year of growth), and there is potential for market growth. Traditionally, tea tree (*Melaleuca alternifolia*) essential oil was the main antiseptic for skin disorders, but recent research, including research at K-State, shows that oregano oil is just as effective. For this market to be available to Kansas growers, access to a steam distillation plant would

be needed within a half day's drive of the oregano fields. There are small distillation units available for test batches, but no commercial units at this time.

A positive aspect of growing oregano is that it is also a culinary herb, so a grower may be able to sell to a local or regional market. However, the quantities may be limited and competition from international markets may undercut the price.

Because the aboveground portion of oregano is marketed, mechanization may be possible.

Field observations suggest that this is a vigorous plant with few pests or diseases under Kansas' hot, windy conditions. There was no mortality of the five plants under observation, and the plants continued to spread into the second and third year of growth. Replicated plots in 2004 seem to confirm these early observational results.

**K-State Field Trial Data 2000-2002 *Origanum vulgare***

				Average	Comments
<b>Age of plants in years</b>	1	2	3		
<b>Number of test sites<sup>1</sup></b>	1	1	0		
<b>Survival rate (%)</b>	100.0	100.0	—	100.0	
<b>Vigor rating<sup>2</sup></b>	4.1	5.0	—	4.6	
<b>Height (cm)</b>	44.0	61.0	—	52.5	
<b>Dry weight herb (g/plant)</b>	47.8	134.0	—	—	
<b>Dry weight root (g/plant)</b>	29.9	46.0	—	—	
<b>Maturity rating<sup>3</sup></b>	1.8	5.0	—	3.4	
<b>Insect damage rating<sup>4</sup></b>	0.0	0.0	—	0.0	
<b>Disease rating<sup>5</sup></b>	0.0	0.0	—	0.0	
<b>Estimated planting density (number of plants/A)</b>	21,780	21,780	—	—	
<b>Plant density<sup>6</sup></b>	21,780	21,780	—	—	
<b>kg/A dry weight (g/plant x plant number) – tops</b>	1,041	2,919	—	—	
<b>Estimated marketable yield (dry weight lbs/A) – tops</b>	2,293	6,428	—	—	
<b>Yield x ½ of low price<sup>1</sup></b>	\$4,403	\$12,342	—	—	
<b>Yield x ½ of high price<sup>1</sup></b>	\$29,144	\$81,700	—	—	

<sup>1</sup> See "How Data Were Collected," on page 3.

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

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

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

<sup>5</sup> Disease rating (scale of 0 to 5 with 0=no damage and 5=severe damage)

<sup>6</sup> 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](http://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 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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