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# FERTILIZE

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# FALL

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*Put it on - - -  
Don't put it off!*



**~~DISCARD~~**

Extension Circular 712

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Cooperative Extension Service  
Oregon State University, Corvallis

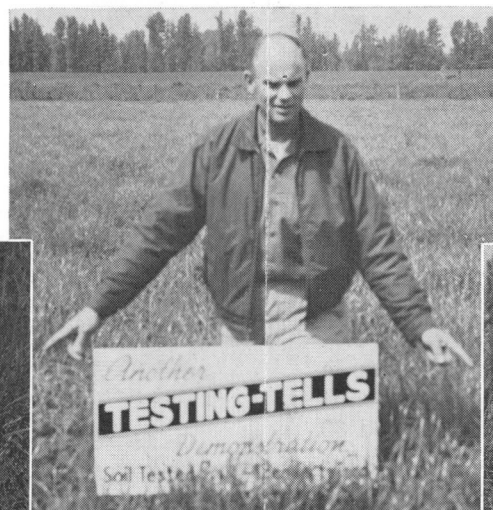
## Fall is the best time to apply fertilizer in western Oregon

Profitable production of forage and many other perennial crops in western Oregon depends on use of fertilizer. To help the crop effectively, essential nutrients must be available to plant roots when growth starts in the spring. Hence, the long-standing recommendation for "fall" or "early spring" application. Western Oregon is famous for extended periods of mild, wet weather through the winter and spring. Growth starts early—regardless of the rain that makes spreading fertilizer difficult or impossible.

Fall fertilization means any time from early September until rain saturates the soil—possibly as late as the last of November or early December. A word of caution: A dry fall can end early. Fall application will cut costs and boost yields. Here are the reasons:

- ▶ In western Oregon most perennial forage crops and winter annuals start growth in the fall. Adequate fertilization at this stage of growth helps next year's yields.
- ▶ Winter rains and frost move fertilizer into the soil, assuring ample nutrients for early spring growth. Spring-applied material may fail to get down to the root area.
- ▶ All parts of all fields can be covered with power equipment easily and quickly—no pulling around wet spots; no stuck tractors or frayed tempers.

No doubt about the delay in this attempt at spring application.



- ▶ Research has shown that winter leaching and other losses are nil or negligible with most nutrients. Loss under winter floods is not serious unless there is erosion.
- ▶ There should be no damaging soil compaction. In the spring heavy equipment can pack the life out of wet soils.
- ▶ With the important fertilizing job out of the way in the fall, there is more time for other work that *must* be done during the first favorable spring weather.
- ▶ Favorable dry fall weather from factory to farm means that materials are easy to handle, no gumminess or stickiness. Material flows evenly through spreading equipment. There are fewer broken and no dissolved bags.
- ▶ Fall is a fertilizer buyer's market. Dealers are well-stocked with materials to meet the needs of each field. Mixed fertilizer is available at low cost that can take care of the complete fertilizer job in one operation.
- ▶ Delivery costs are cut. Bag, bulk, or liquid fertilizer can be trucked to any field. Time and money saving "car to spreader" delivery is possible.
- ▶ The Soil Testing Laboratory gives faster service in the summer and early fall. There is less competition from the "Johnny come lately" spring sampler.

- ▶ Finally, when thinking of fall application—*put it on, don't put it off*—favorable falls have been known to end in early October.

### Behavior of fertilizer nutrients guides fall application

**Phosphorus.** Even water soluble phosphate fertilizers do not readily move through the soil. The problem is to place phosphorus where it can be reached by the roots. Band placement helps on new seedlings. On established stands, winter rains and frost help work the phosphorus into the root zone. Ample available phosphorus is necessary to support a vigorous early growth.

**Potassium.** Rain carries water soluble potassium into the soil where it is taken from solution by clay and humus and held until used by crops. Without irrigation, all of the yearly need for perennial forage can be fall applied. Grass and legumes will take up much more potassium than they need; therefore, with irrigated pasture or hay, apply half in the fall and half June 15 to 30.

**Sulfur.** Sulfur can be leached out of the soil by winter rains, but recent research indicates that on most western Oregon soils this loss is slight. As with phosphorus, sulfur is extremely important to early growth for both legumes and grasses. The value of this early boost exceeds any leaching loss.

**Boron.** There is some loss of boron through leaching, but not enough to justify another spreading operation in the spring. Two to four pounds of boron will supply the need of next year's legume crops.

**Lime.** To be most effective, lime must be applied in advance of seeding. This automatically means summer or fall application for next year's seeding.

**Nitrogen.** Nitrogen is needed to help fall growth of grasses and winter grain. Nitrogen not used by the plant can be lost by leaching. Include nitrogen with *early* fall fertilization to permit full use by crops. Rates should seldom exceed 30 pounds N per acre. Crops amply supplied with nitrogen in the fall will make a vigorous early spring growth, but usually additional spring applications will be needed.

## These crops need fertilizer in the fall

Follow OSU fertilizer recommendations for materials and rates

**Clover grass pastures.** Next year's needs for phosphorus, potash, boron, and sulfur can all be fall applied. With irrigation, extra potash early the next June may be necessary. Early fall nitrogen will extend fall grass growth. Grass growth should be controlled by grazing or clipping to avoid smothering clover.

**Fall seeded grass legume mixtures.** Adequate fertilizer at seeding time can assure a good stand and help young seedlings develop root growth to survive through the winter. Band the phosphorus below the seed if possible. Nitrogen, not over 30 pounds per acre, will help grass get off to a good start.

**Subclover.** Fall applications are especially important for needed phosphorus, potash, boron, and sulfur. Spring applications are too late to be effective on this winter annual legume.

**Alfalfa.** On established stands, next year's phosphorus, potash, sulfur, and boron can be applied in the fall. With irrigation, half of the potash should be applied after the first cutting.

**Winter grain and common rye grass.** Fifteen to 20 pounds of nitrogen (N) and all of the sulfur can be fall applied. If soil tests show the need for phosphorus and potash, fall application is a must.

**Winter legumes.** Crimson clover, vetch, and peas all need sulfur. On many soils phosphorus, potassium, and boron are needed. Fertilizer on these short-lived annuals must be applied in the fall to be most effective.

**Cover crops.** Cover crops must make a vigorous, sturdy fall growth if they are to prevent erosion and leaching losses and renew organic matter. Some nitrogen and sulfur is nearly always necessary. Soil tests may show a need for phosphorus and potash. On many orchards it pays to fertilize the cover crop even though additional fertilizer is not needed for trees.

**Grass seed.** Most grass seed crops need some nitrogen and sulfur in the fall. All of the phosphorus, if needed, should be fall applied.

**Spring seeded crops.** Except for lime there is no advantage in applying fertilizer in the fall for crops to be seeded the next spring. It is far better to wait until seeding time.

## Spring applications

If needed fertilizer was *not* put on in the fall, spring applications are still worthwhile—the earlier the better.

## TESTING TELLS

Soil tests predict need for potash, phosphorus, lime, and boron. When existing levels for these nutrients are adequate, even fall application will not pay. Last year's soil test can guide this fall's applications but don't depend on older tests. Good yields can change levels in a short time.

Soil sample boxes, directions for sampling, and information sheets may be obtained from your County Extension Office or your fertilizer dealer may have them.

*This circular was prepared by A. S. King, Extension Soils Specialist, Oregon State University.*