



Priming and pre-soaking for faster turf germination

Laboratory research has found that seed priming has several advantages over pre-soaking or pre-germination.

■ Dr. Doug Brede of the Jacklin Seed Co., says pre-soaking and/or priming turfgrass seed can speed germination when you want grass to establish in faster-than-normal times.

"After six weeks under optimal growing conditions, it is nearly impossible to tell a primed bluegrass field from an unprimed one," says Brede. "The benefits of priming come when temperatures are adverse, or when bluegrass is mixed with a fast-germinating species such as ryegrass that normally tends to overwhelm the slow-germinating bluegrass."

An obvious use for pre-soaking/priming is on athletic fields, where only a short period is allocated between games for re-seeding.

The difference between priming and pre-soaking? In seed *priming*, root and shoot don't break the seed coat and can be planted by traditional methods; if you *pre-soak* the seeds, however, you must plant them wet, which normally means that hydroseeding (rather than spreading) techniques must be used.

Pre-soaking—"Pre-soaking is easy with perennial ryegrass and tall fescue," Brede claims.

First step in pre-soaking is to put the

seeds in a 55-gallon drum filled with water. Then, aerate them with an aquarium pump and airstone. Wait 48 hours and plant while still wet.

This process, however, produces what Brede terms "mixed results." It is far better, he claims, to pre-soak annual ryegrass and tall fescue with a hormone solution.

Germination speed of primed grasses, fastest to slowest:

- 1- annual ryegrass
- 2- perennial ryegrass
- 3- fine fescue
- 4- tall fescue and bermudagrass
- 5- Kentucky bluegrass
- 6- zoysiagrass

Source: Dr. Brede

In this case, add 6 oz. of gibberellic acid per 10 gal. of water. Seeds will germinate

◀ Laboratory research at Jacklin Seed Co. has found that seed priming has these advantages over pre-soaking or pre-germination: (1) it can be dried back and stored for up to two months; and (2) it can be planted via conventional spreaders.

Photo courtesy Dr. Doug Brede

about three days sooner than if the gibberellic acid was not added.

"Pre-soaking is cheap and easy, but aeration is a must for both pre-germination and pre-soaking," says Brede.

Priming—As a rule of thumb, priming—at best—cuts the field germination period in half.

"Primed seed will germinate faster under cooler (60° F) conditions," Brede observes.

Though results with primed seed are usually better than with pre-soaked seed, priming does present some difficulties. Light is needed to increase the germination index of some species like bluegrass, which also needs free oxygen during priming. Some species—like bluegrass, again—also excrete toxins that inhibit the priming process.

Optimal priming times are five days for Kentucky bluegrass, two to three days for perennial ryegrass. "Stop priming when you first notice root emergence," Brede warns.

Primed seeds have a shelf life that slowly wears off until, after three months, all effects are usually lost.

"After six months, germination of primed seeds is actually poorer," Brede notes. (Pre-germinated seeds, on the other hand, must be planted right away.)

—Jerry Roche



A 10-year-old seed lot of Fylking Kentucky bluegrass springs back to life (right) after seed priming. Untreated grass from the same lot (left) has still not begun to emerge at one week after sowing. Photo courtesy Virginia Kanikeberg