DEPTH and season of seeding are important to the establishment of good stands of perennial grasses on range lands. It is necessary, therefore, to take advantage of weather conditions and of all available seeding information to get grass planted at a season and at a depth favorable for germination and stand establishment. This article presents the results of several field studies, brings together seeding information, and recommends the best seasonal seeding dates, optimum depths, and row spacings for seeding grasses. Although the studies and the observations were done in southern Idaho, they represent a wide variety of seeding sites and the recommendations are applicable to large areas of western range lands where similar conditions prevail.

Practically all investigators cited who have worked on depth of seeding grasses agree in general that a firm seedbed and shallow depths of approximately \( \frac{1}{2} \) to 1 inch are optimum for seeding most grasses on range lands. In some cases it has been suggested that drill furrows be cut \( \frac{1}{2} \) to 2\( \frac{1}{2} \) inches deep and that seeds be lightly covered in the bottom of the deep drill furrow (4, 5, 10). Deeper covering has generally been recommended on dry soils and on light sandy soils and shallow covering on heavy clay soils (1, 2, 4, 13), although Murphy and Arny (8) found little correlation between soil types and depth of seedling emergence. Work in central Utah showed that aspen leaves were satisfactory covering for seed broadcast before, during, or shortly after autumn leaf fall (12). Deep ashes on timber burns and soil sloughing on rough, loose soil have likewise provided good covering for broadcast seed (4). Some investigators found that seedlings of larger seeded species, and, in some cases, of larger seeds of the same species emerged better from the greater depths than did smaller seeds (2, 7, 8, 11).

The findings with regard to proper season of seeding cannot be so readily generalized. In almost all cases, however, moisture was recognized as the most important factor and seeding dates were usually based upon the dependability of moisture at the time of, or immediately after, planting. Plummer (11) found that seedlings must grow sufficiently to develop good roots so that they might survive summer droughts. Some investigators varied the season to suit the species to be planted (1, 2, 14). Many gave different dates for different geographic locations (2, 4, 17). Winterkilling was important in some areas and could be avoided by proper date of planting (2, 8, 17).