Whenever a lawn becomes so contaminated with weeds that there is not enough grass left to make it worthwhile to save, the usual plan of renovation is to spade or plow up the ground, fertilize, and reseed. To work over the soil not only involves much labor and expense, but oftentimes, on account of location of shrubbery and plantings of various kinds, this procedure is not only difficult but impractical. Most weeds can be killed with herbicides of one kind or another; however, many of the more effective of these materials remain in the soil for a considerable time and thus interfere with subsequent reseeding. For this reason, they are unsatisfactory for use on lawns. If the weeds could be killed by the use of some herbicide that would not remain long in the ground and if the work could be done in the late fall or winter (early enough, however, so that the herbicide would not interfere with early spring seeding), then the renovation could be effected not only with a minimum of labor but at a time of year when the attending unsightliness of the operation would be least objectionable. Although a well prepared seedbed is desirable, successful lawn seedings can often be made without previous preparation of seedbed, providing the work is done early in the spring, usually sometime in March when the ground is in a honeycombed condition, depending upon subsequent freezing and thawing to cover. If, for any reason, the ground does not honeycomb readily, coverage of the seed may be effected either by raking or by broadcasting materials, such as good garden loam or peat moss, over the surface.

To fulfill the required conditions, sodium chlorate seemed promising, since previous experiments had shown that it would kill practically all weeds commonly found on lawns, including dandelions which are probably the most obdurate of them all. Accordingly, an experiment was started for the purpose of determining if sodium chlorate applied in the fall or winter would kill lawn weeds, and, if so, the rate and time of application required to accomplish the desired end with one treatment.

For the experiment, an area badly infested with weeds, chiefly dandelions, was selected (Fig. 1). The land, a Wooster silt loam, sloped gently to the west and was naturally well drained. Thirty plats, each containing 100 square feet (5 by 20 feet), were laid off in a continuous series, leaving a 1-foot aisle between. Five plats were sprayed each month, beginning in September and continuing up to and including February. On each date, the chlorate was used in five strengths, viz., 8, 12, 16, 20, and 24%. One gallon of solution was put on each plat in the form of a fine spray by means of a hand sprayer. The dates of application were September 29, October 27, November 19, and December 20, 1930, and January 24 and February 24, 1931.

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2Associate and Assistant, respectively.
3In the use of sodium chlorate, consideration should be given to the fact that under certain conditions it may become a grave fire hazard.