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phate and lead arsenate on turf. The two chemicals are entirely compatible.

B. R. Leach.

### Chickweed; Top-dressing

Sir:

(1) In using lead arsenate for weed control, how early would you start the treatment? One of our blue-grass and red-top greens has chickweed coming in pretty fast. How much should we apply per 1,000 sq. ft.? Would you recommend a second treatment; if so, how long after the first and how much?

(2) We fertilize during the month of May with milorganite, 300 lbs. to each green, which average 5,000 sq. ft. Would you split up that amount into more than one application? If you recommend sulphate of ammonia in the spring, how much and when should it be put on?

(3) We have never had any manure to put on our greens until last summer, when I used some soil from a field I plowed the year before. I took some wild land, manured it, raised a crop of rye, plowed it under, sowed buckwheat and soy beans the last of June, and plowed them under also. What do you think of this way to fix up dirt for applying to greens?

(4) Is it practical to change a blue-grass into bent gradually by the use of stolons each spring when top-dressing?

(5) On a 5,000-sq. ft. green, what is a light top-dressing, a medium one, a heavy one? Would you clip greens close in the spring?

A. S. (Wisconsin).

### Reply:

There is a decided difference of opinion in some of the matters you bring up, and my replies, in last analysis, are simply my personal opinions.

(1) For chickweed control, apply lead arsenate as soon as growth starts, 5 lbs. per 1,000 sq. ft. If, after three weeks, small spots of the weed still persist, give them an additional treatment with the chemical, but not the green as a whole.

(2) Put all the milorganite on the green in one application in early spring or late fall. During the cooler growing season 30 lbs. per 1,000 sq. ft. is a good application; half this amount during hot weather.

(3) Your method of preparing top-dressing is O. K.; much better in my

opinion than the compost pile method.

(4) George Davis of Louisville, Ky., told me that he had changed blue-grass greens to stolon bent by inserting stolons into the turf with a sharp spade or knife. It takes time and perseverance, but can be done. Am afraid covering of stolons with top-dressing would result in the runners drying out.

(5) A light top-dressing is  $\frac{1}{2}$  cu. yd. per 5,000 sq. ft., which covers green 1/32 in. deep; a medium top-dressing is 1 cu. yd. per 5,000 sq. ft., which covers green 1/16 in. deep; a heavy top-dressing is 2 cu. yds. per 5,000 sq. ft., which covers green  $\frac{1}{8}$  in. deep. Clip the grass close from the time growth starts in the spring. Top-dress lightly as growth slows in the fall.

B. R. Leach.

### Aiding Faulty Greens

Sir:

We have 18 bent greens, last year being our first year of play. All year we were bothered with small brown-patch, the worst coming at the close of the season. The turf looks very bad at this time, and I am wondering if our top-dressing last year—good black dirt, peat and sand—was the cause. We fertilized with sulphate of ammonia.

The greens are temporary, to be used until our permanent course is completed, and were laid on clay soil with very little care taken in building. Would limestone help, and if so, in what proportions?

Do you suppose the brown-patch will be gone from the greens since they have been dormant all winter?

We are fertilizing our greens and fairways with milorganite, 800 lbs. to the acre on the fairways. What amount would you use on the greens?

B. F. H. (Indiana).

### Reply:

Briefly, your problem is to thicken up the turf by encouraging the bent grass to spread. The fertilizer will do this providing the soil of the green and drainage are O. K. If the soil is hard and poor, the fertilizer may not show quick results. All the fertilizers in the world will not remedy insufficient care in the building of a green.

Discontinue the peat and use 10% rotted manure in the top-dressing. Apply 30 lbs. milorganite and 3 lbs. sulphate per 1,000 sq. ft. of green at once.

On May 15, would apply 50 lbs. ground



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