enough so that it did not dry out very rapidly, but in the other lots the surface had become quite hard due to alternate watering and drying. This poor mechanical condition of the soil was probably the cause of the slow growth of the plants in Lots I, IV and V. Many of these plants finally died, leaving some patches growing fairly well in Lot IV and leaving only a few scattered plants in Lot V. In Lot I only one blade of grass and one dicotyledenous weed were left on April 14, 1927.

On March 22, the only seed which germinated in Lot II appeared.

Lots III, IV and V were photographed on April 12, and Lots I and II on April 14.

The more important data on the treatment and germination of the various lots is tabulated in the accompanying table.

Discussion of Results

M ANY weed seeds are extremely slow to germinate, but, unless a very large percentage of the seeds present in Lot I were dormant, this test shows that there were very few live weed seeds in the compost.

Lots II and IV show that heating to 160°-180° killed many of the seeds present.

Lot V shows that most of the seeds were killed by heating to 180°-200°F. Many of those which did germinate were probably on the extreme surface which could not be heated to 180°F.

Summary of Results

S^O few weed seeds germinated in the check lot No. I that unless there were a large number of slowgerminating or dormant seeds present, the value of attempting to kill them by heating the compost appears doubtful.

Table Showing Heated Hours and Temperatures Attained

	Heated	Temperature Attained			
	Hours	Zone A	Zone B	Zone C	
Lot II-1st Trial (Dry)	51/2	120-130°F	130-140°F	145-155 °F	
Lot II-2nd Trial (Wet)	2	160-165 °F	170-180°F	170-180 °F	
Lot IV-(Packed)	31/2	160-165 °F	165-175 °F	165-175 °F	
Lot V-(Wet and Packed)	. 6	170-180°F	180-200 °F	180-200 °F	
Lot II—2nd Trial (Wet) Lot IV—(Packed) Lot V—(Wet and Packed)	2 3½ 6	160-165 °F 160-165 °F 170-180 °F	170-180 °F 165-175 °F 180-200 °F	170-180 165-175 180-200	

The compost is such a poor conductor of heat that it would be a very difficult matter to heat any considerable quantity of it by means of a steam coil in a box or a pile.

Lot II, in which the compost was well wet down around the coil, heated through rapidly and more uniformly than the other lots. This method, i.e., wetting down the compost around a steam coil and then letting the whole pile steam through, might work fairly well on larger quantities.

Heating to 180°-200° would kill most of the weed seeds in the compost and to 160°-180° would kill many of them.



Table Showing Treatment and Germination

Weight of Compost	Lot I	Lot II	Lot III	Lot IV	Lot V
	44 lb.	44 Ib.	44 lb.	44 lb.	44 Ib.
Red Clover	None	None	60.2 gr.	60.2 gr.	60.2 gr.
Timothy	None	None	103.6 gr.	103.6 gr.	103.6 gr.
Mixed Weeds	None	None	40.6 gr.	40.6 gr.	40.6 gr.
Heating Temp. to which heated Time held at this Temp Time to reach this Temp No. Heating Coils Used Condition of soil at start of heating	Not Heated	160-180 °F. 20 minutes 2 hours 1, 4-turn Wet around coil. Remainder dry.	Not Heated	160-175 °F. 20 minutes 3 ¹ / ₂ hours 2, 4-turn All dry. Packed well.	180-200 °F. 40 minutes 6 hours 2, 4-turn Fairly wet around the coils, packed well.
Condition of son at end of heating		moist, friable.		Dry, mable.	lumpy.
Germination Date Placed in Germination Boxes Dates on which lots were photographed Dates when first plants appeared	3-11-27 4-14-27 3-13-27	3-11-27 4-14-27 3-22-27	3-11-27 4-12-27 3-13-27	3-11-27 4-12-27 3-13-27	3-12-27 4-12-27 3-14-27
Grass	5	0	Many	500	75
	5	0	Many	150	25
	7	1	Very Few	Very Few	Very Few