

Spring Lettuce Fertilization

Proper Method Pays Off Best

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The values of proper fertilization in the commercial production of head lettuce have been proved time and time again. Under today's economy and improved methods of lettuce production, no alert grower would dream of growing this crop without some sort of fertilizer.

However, this "some sort of fertilizer" appears to be the crux of the problem in fertilization.

Understand "Why"

As the first step towards correcting this situation, each grower should approach his fertilizer program realistically and ask himself this question: "Do I really know or understand why I am applying a particular fertilizer, or am I applying it just because my neighbor has made an application, or for some other similar unrealistic reason?"

Many of the growers agree that much of the fertilizer material applied for this crop is literally wasted because of improper and untimely application or because of unwise use of kinds and amounts. Experimental results, in this connection, have been quite revealing. Almost without exception, carefully conducted experiments under many different field conditions in cooperation with commercial growers have indicated major

trends in the proper fertilization of this crop.

Nitrogen Needed

FIRST, most soils used in lettuce production will respond to nitrogen fertilization, expressed in increased yields (See Table I) and improved quality. In this respect, it generally

TABLE I. Influence of Nitrogen on Size and Yield of Head Lettuce.

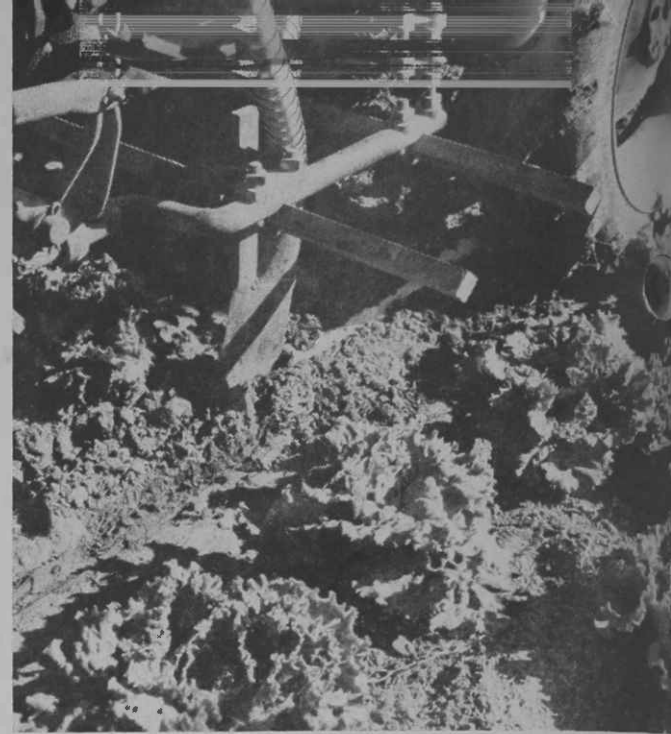
Yields expressed in crates per acre

Nitrogen Response	4 Dozen Size		5 Dozen Size	
	Harvest 1st	Harvest 2nd	Harvest 1st	Harvest 2nd
0 lbs. Banded	82	31	44	21
30 lbs. Banded	120	44	44	20
60 lbs. Banded	134	46	38	15
90 lbs. Banded	132	39	35	18

makes little difference as to the source or form of nitrogen used if each type is applied correctly. It is poor practice to side-dress fertilizers so close to the plants that root pruning causes more damage than the good that could ever come from the applied fertilizer. Likewise, placing fertilizers too deeply is unwise and impractical since these plants will probably be unable to use it.

When a fertilizer is applied in the irrigation water, care should be exercised so that it is not allowed to be removed from the field through "tail" water. These are only a few inadequacies often observed in many fertilizer programs.

The SECOND major trend is that fewer of these same soils respond to the application of phosphate fertilizers. However, in this respect, it is just as important that phosphate responsive soils receive adequate and proper phosphate fertilization as nitrogen deficiency soils must be sup-



Side dressing spring lettuce with ammonium nitrate.

plied with nitrogen fertilizers. Fertilizer phosphates should be applied early in the growth of the plants because of the slow response in plant growth which is normally experienced from this fertilizer material.

THIRDLY, experimental investigations to date indicate that no soil tested gave a response to an application of potash. Therefore, generally speaking, potash fertilization is not recommended for this crop.

Fertilize Early

In the fertilization of spring lettuce, it has been found desirable to apply fertilizer materials, including nitrogen and phosphate, if this latter material is needed, before planting or early in the growing period. It is the preferred practice to make the first application in a broadcast manner prior to bedding or listing. If this procedure is followed, the listing operation will fold the fertilizer into the bed where the lettuce seedling might utilize the fertilizer as soon as the plants begin to grow.

During the cold winter and early spring months, no fertilizer should be applied. As soon as the weather begins to warm in the spring, a side-dressing with nitrogen should be made if the plants so indicate such an application. This nitrogen may be applied by properly side-dressing dry fertilizers; running liquids, dissolving gasses or solid fertilizer materials in irrigation water; or by proper injection of gaseous nitrogen into the furrow. An application of phosphate at this time is not recommended. The total amount of this fertilizer material should be applied in the pre-bedding operation or as a side-dressing immediately after thinning.

Rate	General Recommendation	Recommendation for Phos. Responsive Soils	Application	
			Time of	Method of
200 lbs per acre	Ammo-Nitrate or Nitrogen Equiv.		Pre-Bedding or Thin. time	Broadcast or Banded
100-150 lbs. per acre		Same as above plus 46% Phosphate or P ₂ O ₅ Equivalent	Pre-Bedding or Thin. time	Broadcast or Banded
Additional side-dressing 100-150 lbs.	Ammo-Nitrate or Nitrogen Equiv.		When soil begins to warm in spring	Banding, water application or injected