

# AMBASSADOR COLLEGE

*Agriculture Department*

Big Sandy, Texas 75755

AC RANCH

P.O. BOX 927

## R E V I T A L I Z E    S O I L

A N D

## U S E    T E S T    R E S U L T S

To heal sick soil and bring it back into profitable production of high quality, health-sustaining crops, it is necessary to stop using the farming practices which have caused the trouble, and begin farming in accord and harmony with the natural laws God has set in motion. There is always the question, "Where to begin?"

A step should be taken to determine as much as possible where your soil presently stands, so a plan of action can be formulated. A soil test will give a guideline to the available N-P-K (nitrogen, phosphate, potash) and the pH level. As mentioned before, organic matter is the key to soil balance. This should always be increased. A soil test will help tell you what is "locked up".

For example, if the soil is too acid, organic matter and ground limestone will bring it back into the growing range so soil organisms can multiply rapidly and begin to work efficiently.

Soils low in phosphorus or potash may need an application of ground rock phosphate or potash rock. Since one application of these minerals lasts for a number of years, in most cases the soil organisms will begin to liberate sufficient supplies from the earth itself so further applications will not be needed.

Nitrogen-fixing bacteria live in nodules on the roots of legume plants such as clover, peas, peanuts, soybeans, cowpeas, vetch, and alfalfa. These bacteria are capable of adding as much as 200 pounds of nitrogen to an acre of soil each year.

Nitrogen can also be added by applying manure and compost. Most nitrogen of plant and animal remains is locked up and must be liberated by the living bacteria. Still other forms of nitrogen-fixing bacteria make nitrogen available to a plant directly from the air.

To help speed up the rejuvenation of soil, it may be advisable to spray a culture of soil bacteria on the fields. This is especially helpful if a farmer does not have enough compost to spread on the land to supply the bacteria. A culture of soil bacteria can be grown in a tank and sprayed on the field at a rate of 30 to 50 gallons per acre. We have used a bacteria culture on our farm in Texas with excellent results. However, you need to have some organic matter for the bacteria to work on. The bacteria culture is not itself a fertilizer. It only activates the soil. (Information on this culture is available on request.)

## General Table of Fertilizer Application

### I. Guide to balancing the pH level. (Rate per acre)

Limestone	1 ton <u>brings up</u> the pH level 1 point
"Organic"	250 lbs. <u>brings up</u> the pH level 1 point
KMP	200 lbs. <u>brings up</u> the pH level 1 point
Gypsum	1 ton <u>lowers</u> the pH level 1 point
Liquid Sulfur	5 gal. <u>lowers</u> the pH level 1 point

### II. Source of Nitrogen Supply.

Green Manure Crop -- Disc in clover, or alfalfa, or rye, or beans, etc.

or	Approx. rate per acre	Garden rate per sq. yd.
	Medium to High 100 lb.	1/4 lb.
"Organic"	Medium 200 lb.	1/2 lb.
	Medium to Low 300 lb.	3/4 lb.
	Low 400 lb.	1 lb.

### III. Source of Phosphorus

#### Rock Phosphate

	Medium to High 200 lb.	1/2 lb.
	Medium 300 lb.	3/4 lb.
	Medium to Low 400 lb.	1 lb.
or <u>KMP</u>	Low 200 lb.	1 1/4 lb.

### IV. Source of Potash

#### Natural Muriate of Potash

	Medium to High 80 lb.	1/8 lb.
	Medium 120 lb.	1/4 lb.
	Medium to Low 160 lb.	1/2 lb.
or <u>KMP</u>	Low 200 lb.	3/4 lb.

### V. Source of Major and Minor Elements

#### Bacteria (key to unlock soil)

20-30 gal.                      1/2 gal.

Fertile Mix contains sources of N-P-K and soil bacteria. It is a blended "organic", "KMP", and bacteria fertilizer.

	Medium to High 300 lb.	3/4 lb.
	Medium 400 lb.	1 lb.
	Medium to Low 500 lb.	1 1/4 lb.
	Low 600 lb.	1 1/2 lb.

In summary, to restore soil balance and maintain your proper pH level, you need organic matter. When soil is not producing properly and its minerals are locked up because of soil imbalance, more organic matter and living organisms are needed.

If you have further questions regarding specific soil test results, please feel free to write again.

STR

S O I L   I N F O R M A T I O N   S H E E T

To aid in interpreting the soil test and making recommendations, fill in the following information sheet, and submit with your soil samples. Each soil sample should be marked with your name and sample number which should correspond with the information furnished on this sheet. See mailing instructions on opposite side under Step 3.

NAME \_\_\_\_\_ DATE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

A. SOIL CONDITIONS: (Use ditto and check marks wherever possible.)

Laboratory No. (Do not write in this space.)	Your Sample No. (Field)	Acres in Sample	Upland	Location		Irrigated		Soil Type (if known)	Remarks
				Bottom	Second Bottom				

B. CROPS TO BE GROWN

C. CROPPING HISTORY

Sample Number	Next 2 Crops				Last 2 Crops						
	Next Crop 19__		Year after 19__		Present or Last Crop 19__			Previous Crop 19__			
	Crop	Desired Yield	Crop	Desired Yield	Crop	Yield	Fertilizer		Crop	Yield	
				Grade			Lb/A				

D. GENERAL: (Please answer following questions if applicable to these samples.)

1. Will small grain be grazed? No\_\_ Yes\_\_ Which fields? \_\_\_\_\_
2. Has lime been applied during past two years? Which fields? \_\_\_\_\_
3. Will grass be used for hay? No\_\_ Yes\_\_ Which fields? \_\_\_\_\_
4. Will grass be used for grazing? No\_\_ Yes\_\_ Which fields? \_\_\_\_\_
5. If grazed, how many animal units per acre? \_\_\_\_\_
6. Will a legume be grown in pasture? No\_\_ Yes\_\_ Which fields? \_\_\_\_\_
7. What is the primary pasture grass? \_\_\_\_\_

## PROCEDURE FOR TAKING SOIL SAMPLES

Soil tests can be only as accurate as the samples on which they are made. Proper collection of soil samples is extremely important. Chemical tests of poorly-taken samples may actually be misleading.

- Step 1. Take one soil sample from each uniform area of 10 to 40 acres in a field. In areas such as east Texas, one sample should represent only 8 to 12 acres; whereas, in areas such as the Coast Prairie, where some soils are more uniform, one sample can represent up to 40 acres. The sample should be taken from over all the area. This can be done by taking a small amount of soil from 10 to 15 different places. Place these in a clean container (bucket, paper sack, etc.), mix thoroughly, and take out approximately 1 pint for the composite sample. Avoid sampling unusual areas such a slight field depressions and small eroded areas.
- Step 2. When taking the small samples use a small spade. Scrape the litter from the surface. (For pasture, sample to a depth of 4 inches.) To use a spade, dig a V-shaped hole and take a 1/2 inch slice of soil from the smooth side of the hole. Repeat in 10 to 15 different places.
- Step 3. Fill out completely the information sheet on the opposite side. Enclose together with the soil testing fee in a stamped envelope and attach to the outside of package containing samples so that both will reach the laboratory together. Address the letter and package to:

Soil Testing  
Ambassador College Agriculture Dept.  
Big Sandy, Texas 75755

\$1.50 will cover costs.

(NOTE: All these steps apply to a garden on a smaller scale.)

### PRECAUTIONS

1. Avoid sampling spots in the field such as small gullies, slight field depressions, terrace waterways and unusual spots.
2. When sampling fertilized fields, avoid sampling directly in fertilized band.
3. Do not use old vegetable cans, tobacco cans, match boxes, etc., to submit samples.
4. Do not use heat to dry samples.
5. Be sure to keep a record for yourself as to the area represented by each sample.
6. Be sure sample numbers on the boxes correspond with sample number on the information sheet.