MAINTAINING QUALITY OF FARM DRIED AND STORED GRAIN

Fans

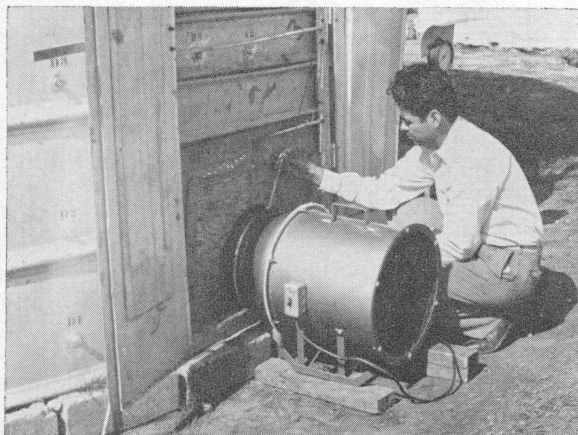Temperature

Moisture Content

Aeration

Insects

Records

MAINTAINING QUALITY OF FARM DRIED AND STORED GRAIN

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ONCE farm-stored grain is dried to approved safe moisture limits, certain practices should be followed to maintain the quality during storage.

● SET THE FANS TO PULL AIR DOWN THROUGH THE GRAIN. As soon as drying is completed, reverse the position of the fans so that they will pull the air through the grain.

● CHECK THE TEMPERATURE OF THE GRAIN AT LEAST ONCE EACH WEEK. The temperature of the grain during storage is a good indication of its condition. A reasonably accurate average temperature can be determined by starting the fans and checking the temperature of the air leaving the bin. This can be done by placing a good quality thermometer in the duct between the fan and grain close to the bin wall. Also, smelling the exhaust air will aid in detecting any moldy or "off" odors.

Place a good quality thermometer in a slot in the duct near the bin wall for checking the grain temperature after the fan is started.

● CHECK THE MOISTURE CONTENT OF THE GRAIN MONTHLY. *Separate* checks should be made at the bottom, center and top foot of the grain. An *average* moisture sample is of *no value* and should not be used.

● AERATE AS OFTEN AS IS NECESSARY. Operate the fan to pull air through the grain during the entire period of aeration. *The fan should not be operated during rain or fog.* Operate the fans according to the following temperature conditions:

> When grain temperature (exhaust air) is:
>
> *Above 85°*—operate fan continuously when outside air temperature is 10° or more below exhaust air temperature.
>
> When grain temperature (exhaust air) is:
>
> *From 70° to 85°*—operate fan continuously when outside air temperature is 15° or more below exhaust air temperature.
>
> When grain temperature (exhaust air) is:
>
> *Below 70°*—operate fan continuously when outside air temperature is 20° or more below exhaust air temperature.

● CHECK INSECT ACTIVITY AT LEAST TWICE A MONTH AND FUMIGATE WHEN REQUIRED. Full-depth probe samples should be taken twice a month at selected stations over the bin to determine the extent of insect population. When fumigation is necessary, follow procedures outlined in Texas Agricultural Extension Service publication, C-334 or check with local county agricultural agents.

When fumigation is required, its effectiveness should be closely checked. The grain temperature should be checked twice

a week until all "hot" and high moisture spots are cleared. If the fumigation is effective in killing insects, the grain temperature should decrease without aeration.

If "hot" spots still are present after two weeks, the cause of heating likely is due to high moisture content and incomplete insect kill. The grain should be aerated until high moisture areas are reduced. If insects still are present, the bin should be refumigated.

● KEEP RECORDS ON GRAIN TEMPERATURE AND MOISTURE CONTENT. A complete record will help the operator quickly determine changes in the condition of the grain since previous checks. By labeling "stations" within the bin, he can trace the exact spot when a sample runs high in moisture. He also will have information handy to assist him in future drying and storage operations.
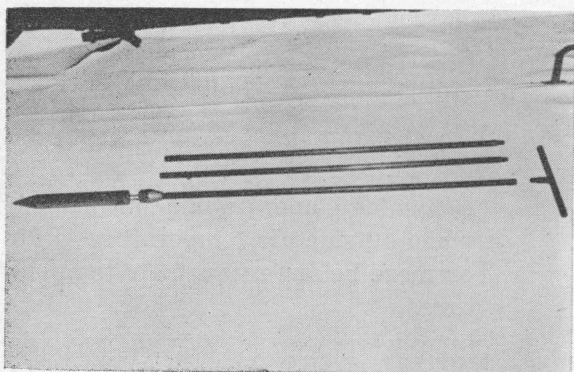
A deep pin probe is suitable particularly where the grain is deep and in bins with little head room. Three-foot extension rods enable the sampling cup to be pushed as deeply into the bin as is necessary. The cup remains closed as long as the probe is pushed down. When the probe is withdrawn, the cup opens as shown, allowing grain to flow into the cylinder.