

5
K3
37/5

SPS C, 1



April 1961

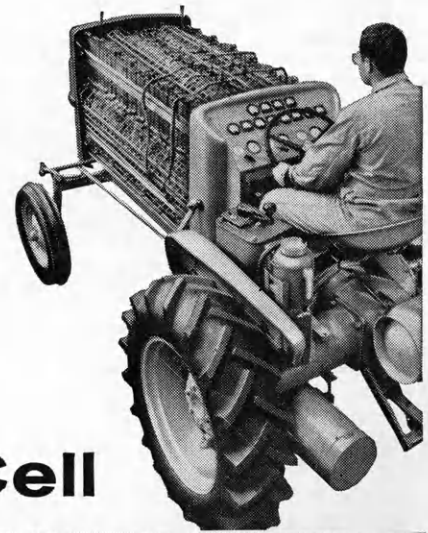
A
KANSAS STATE UNIVERSITY
AG STUDENT

"Water Rights" . . . page 10

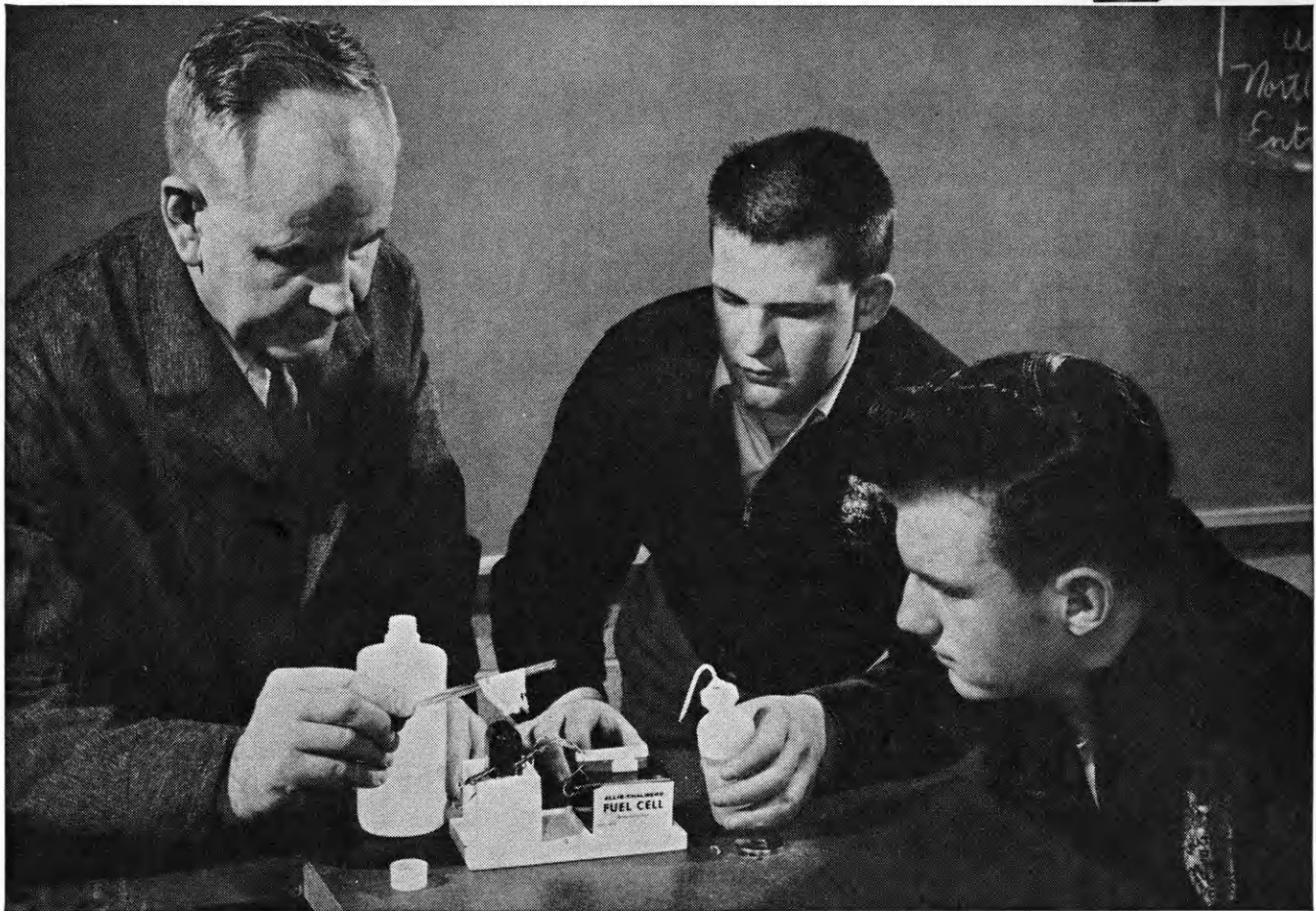
Allis-Chalmers research for the farm of the future

Pioneering fuel cell research by Allis-Chalmers has opened the door to dramatic future power possibilities.

As early as October, 1959, the world's first fuel cell-powered vehicle . . . an Allis-Chalmers tractor . . . pulled a 2-bottom plow. This vehicle is now on public display in the Smithsonian Institution, Washington, D.C.



Demonstration Fuel Cell



In response to many requests for information on the fuel cell, Allis-Chalmers has developed a miniature model. This FUELECTRIC power unit produces usable direct current from inexpensive chemicals such as alcohol and hydrogen peroxide. It is being mass-produced as the first educational device offered in this field. It is available to science teachers and others at a nominal cost.

The fuel cell offers exciting opportunities in many applications. It has an efficiency of 60 to 80%, produces little heat, no noxious fumes, and operates silently.

As Allis-Chalmers scientists move ahead in the fuel cell field, they bring closer the day when the exciting new power sources of the future will be here.

Allis-Chalmers, Farm Equipment Division, Milwaukee 1, Wis.



ALLIS-CHALMERS

delivers the dollar-making difference

FUELECTRIC is an Allis-Chalmers trademark. Patent applications are pending on the company's improvements in the fuel cell field.

KANSAS STATE UNIVERSITY

AG STUDENT



Vol. XXXVII

April 1961

No. 5

In This Issue

Editorial	4
Stop Weeds Before They Start	5
Boating Is "Family Style" Fun	6
Proper Guidance Prevents Problem Children	8
Know Your Water Rights	10
Spring Fashion Parade	12
Dry Your Grain	14
Plant Flowers for Pleasure	15
Good Management Will Make Irrigation Profitable	16

EDITOR

Norman Werner

ASSOCIATE EDITOR

Arnold Good

ASSISTANT EDITOR

Claudette McInnis

HOME EC EDITOR

Margaret Cooper

PHOTOGRAPHER

Jerry Hiatt

FACULTY ADVISER

Lowell Brandner

BUSINESS MANAGER

Dave Schawe

BUSINESS STAFF

Jerry Hedrick Steve Wright
Kalen Ackley Barbara Trelloggen

CIRCULATION

Neil Dowlin Clinton McDiffett

STAFF WRITERS

David Good Nancy Smith
Terry Knowles Linda Hitchcock
Donald Haberer Doris Imhof
John Dicken

PHOTO CREDITS: Bureau of Reclamation, cover; Ag Experiment Station, 5, 10, 11, 16, 17; Mr. Murvin Perry, 6, 7; and Ag Student Photographer

Published by the Agricultural Association of Kansas State University of Agriculture and Applied Science, Manhattan, Kansas, in October, December, February, March, April, and May. Subscription rates \$1.50 a year; 2 years, \$2; single copy by mail 30c, at office 20c. Second class postage paid at Manhattan, Kansas.

FARMERS CO-OPERATIVE ASSOCIATION

AUTO, TRUCK AND TRACTOR NEEDS

PETROLEUM PRODUCTS FEEDS PAINTS

Propane

Anhydrous Ammonia

130 Pierre, Manhattan, Kansas

Phone 8-2423

A Friendly Place
To Shop

WARD M. KELLER'S

COMPLETE SHOPPING TO OUTFIT
YOU FROM HEAD TO TOE

Millinery—Shoes

Ready-to-wear

also cosmetics

girls' wear

accessories

table linens

bedding

*complete yard goods
department for your
home sewing

Shop Thursdays till 8:30 p.m.

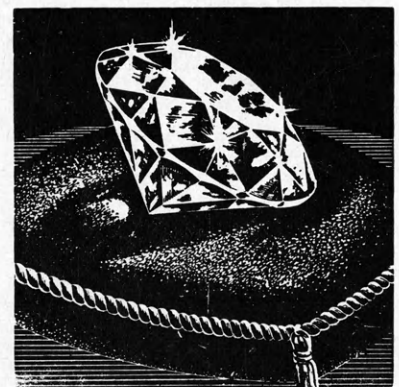
Other week days 9:30 to 5:30

DIAMONDS

WATCHES

JEWELRY

Diamond Specialists



REED & ELLIOTT
Jewelers
WAREHAM THEATER BLDG.

CERTIFIED GEMOLOGIST
AMERICAN GEM SOCIETY

Editorial . . .

IF YOU'RE a 1961 high school graduate, you can tell your parents that I know where you can earn \$135 a day for 180 days of work during each of the next four years. This is no joke. There's no catch to it, and the work I'm suggesting is quite legitimate.

Furthermore, I'll bet someone in your high school has already told you about this set-up without giving you the above figures. You haven't heard about this deal or already guessed what it is? It simply is putting in four years of work to get a college education.

Before you think I'm crazy and turn your attention to the next page, I want you to know that I didn't just guess at the above figures. According to average figures taken from the U.S. Census Bureau, a high school graduate's life income is \$165,000. The average life income figure for a college graduate is \$268,000. Subtract the two and you'll get \$103,000. Then break this figure down to four 180-day school years and you'll get the \$135 a day. Investing \$4,000 to \$5,000 on a college education for a \$103,000 return is an investment that's hard to beat.

What are you going to do after you graduate from high school? Have you thought about it? Soon after you get out of high school you'll realize that it will be up to you alone to decide what you are going to do in the future.

If you want to farm and have the land or can get it, then you ought to farm. I believe that nothing less

than a disaster should stop you. But as this world gets more complicated you're going to have to handle more technical and scientific problems. A college education will give you the knowledge to solve everyday situations later on.

The odds are, however, that you won't be able to go back to the farm. Fifteen percent of the farm youth in the U.S. can expect to become owners or operators of commercial farms. The other 85 percent will have to shift to other professions. If you are among this 85 percent who won't get a chance to go back to a farm, you'll have to decide just what you will do for a living.

In terms of averages, there is no better investment, no better insurance of material success, than education. If you want to be a doctor, lawyer, engineer, diplomat, or business man, your farm background won't hurt you.

On the other hand, you don't have to leave the field of agriculture altogether. With your farm background you have a running start at any one of a hundred vocations closely related to agriculture. You have what the city boy can't buy, an understanding of rural life.

Any way you look at it, getting a college education is money well spent. I don't think you'll hear anyone regretting that they went on to school. You don't become a noted economist, soil technician or veterinarian because "the ball bounced that way." You get these jobs if you're willing to work for them. But it does take a college or university to supervise your efforts.

Norman Werner



Good Seed Is Good Business

The **K**ansas **C**rop **I**mprovement **A**ssn.
Manhattan, Kansas

WE FRAME PICTURES

*200 Molding Samples
to Choose from*

We make frames
and mats to fit the
individual picture.

**Aggie Hardware
& Electric Co.**

G. W. GIVIN

1205 Moro

Phone 82993

Stop Weeds Before They Start

by John Dicken

ARE FIELD cultivators becoming obsolete? At present we can't say for sure that cultivators will become relics of agriculture. It is quite evident, however, that chemicals will eventually take the place of cultivators for weed control in some of our agricultural crops.

The most promising system of chemical weed control is the application of chemicals to the soil before the crop emerges from the soil. These chemicals, known as pre-emergence chemicals, control weeds by being absorbed by the roots of germinating annual grass and weed seeds. While some of the pre-emergence chemicals are used only for pre-emergence applications, others are being used as weed sprays for application to plants after emergence.

The chemicals may be applied as a water-soluble spray or in a granular form (dry application). The spray application has the advantages of better distribution on the soil and quicker action, if applied to a wet soil.

Rainfall Is Important

Weed control will usually be satisfactory if the chemical is applied according to the instructions on the label, providing rainfall soaks the chemical into the top one half inch of the soil shortly after application. A long dry period following application on a dry soil surface will reduce the effectiveness of any pre-emergence chemical used. On the other hand, heavy rainfall immediately after application may soak the chemical down into the soil to the depth where the crop seeds are germinating, causing some injury to the crop.

The use of pre-emergence chemicals is of particular interest in Kansas for weed control in row crops, since our biggest weed-control problem is in row crops. Recent tests have shown

favorable results with pre-emergence applications for corn and soybeans while applications on sorghums haven't been too successful.

Due to unpredictable and highly variable rainfall patterns during planting time for corn and soybeans, the use of pre-emergents for these crops involves risk. You should consider this before money is invested in pre-emergence weed control.

Test Chemicals on Small Plots

If you are interested in pre-emergence weed control, why not try one or two of the most promising herbicides on a small plot on your farm to check performance. After observing performance of pre-emergence chemicals on your own fields, you are in a better position to evaluate the chemicals for possible use on a larger scale.

Test plots have been maintained in most counties in eastern Kansas for pre-emergence chemical usage on corn for the last two years. Over 95 percent of the tests were extremely satisfactory. Information from these plots should give you an idea as to which chemicals are best suited for your area and should also serve as an indicator of how pre-emergence chemicals would work for weed control on your farm.

Chemicals Fail on Sorghums

Pre-emergence chemical weed control has been tried on sorghums, but right now there is no chemical available that is really satisfactory. Most chemicals tested on sorghums either resulted in poor weed control or reduced the stand and vigor of the sorghum plants.

The residues of many of the pre-emergence chemicals must be washed

out of the soil almost completely before alfalfa and oats can be planted the following season without injury. A farmer must be careful not to use a pre-emergence herbicide on corn in a rotation pattern followed by alfalfa or oats, or the following crop may be injured.

The question of complete coverage or band applications over the rows is another decision left up to you. Band applications require about one third as much chemical as does complete coverage, so it is cheaper from the standpoint of chemical cost. However, weeds between the rows must be controlled by cultivation in this type of application. On the other hand, complete coverage will, under favorable conditions, control annual weeds for the entire growing season. Complete coverage will average from \$12 to \$13 an acre for chemicals, so it is up to you to determine which system would be more economical for your farming program.



Pre-emergence sprays may help to keep weeds out of row crops without cultivation.

Boating Is 'Family Style' Fun

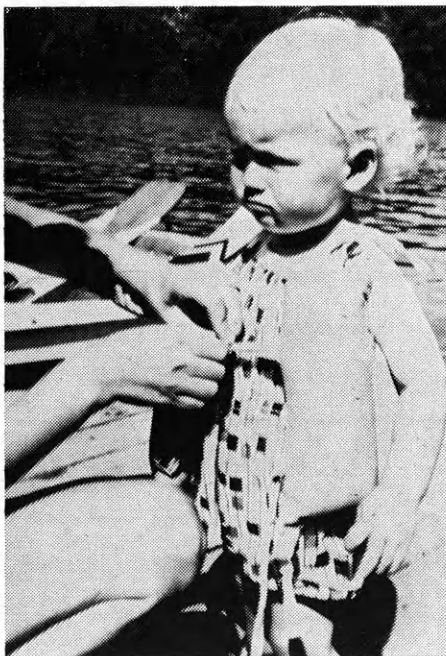


by Neil Dowlin

PPULL AND PRAY, then cuss! Tinker awhile, then yank the starter rope and pray some more. That is how you used to describe outboard boating.

Now a car in every drive and a boat in every garage has become the way of life during summer months. Indeed, a boat in the barn and water skis in the shop is quite common over the country. Kansas is hundreds of miles from the coast but you see boats speeding down the highways behind family cars nearly any summer weekend.

Besides the chance to share some group recreation the family can learn water safety and the responsibilities that go with a day on the water.



Boating is fast becoming a popular sport in Kansas.

The cost of boating "family style" varies, so you can almost write your own check. Cruising speed gives you good fuel economy with any boat. Gunning the motor and running at top speed are good ways to burn up the gas. Wind and water conditions combined with the number of people aboard will affect your gas mileage.

Annual Refinishing Means Work

An important item of upkeep for wooden boats is the annual refinishing. It isn't as glamorous as popular magazines would have you think. After the old varnish is scraped off you have sealing compounds to work into leaking crannies of the hull. Snug-fitting construction joints are a must, so check them often. Putting the finishing coat on with care is an important point in making the boat last longer.

One way to ease this refinishing job is to buy an aluminum rig. In fresh water this boat will run many seasons without a new paint job. Salt water will affect the paint job some, but this varies. The metal seams and joints are fastened with rivets and then filled with sealing compound. Some owners say the rivets loosen with use because of the vibration produced by the motor.

Fiberglas reinforced plastic boats are the surest way Dad can avoid all the worry and hard work of refinishing a boat. The color is baked into the glass finish and never peels off.

Safety is important anywhere, and is most important in boating. The Coast Guard says you must have a life jacket for everyone in the boat. Common sense is a must also.

Here is a saving in time and money you'll want to consider when you see the higher price tag. Fiberglas boats are molded over a frame in a one-piece unit. This is why they get so much strength from a thin skin. Neither fresh nor salt water seems to affect this material.

Buying a boat is a family investment and should be considered as such. Children in the family put lots of pressure on the parents to buy a boat, but Mom often is the deciding factor.

Have you finally decided boating is for you? If so, decide what you will use the boat for—water skiing, fishing, coastal cruising, or as a lake-side swimming dock. The larger the body of water the bigger boat you need to ride-out rough water. How many people will ride in the boat, and will you have guests aboard often?

Besides having enough room for everyone you need life jackets for all who ride in the boat. If you want to ski you'll need a motor big enough to pull the boat and one or more skiers. Ski motors have to be in good mechanical condition if you get good performance from them.

14-Foot Runabouts Are Popular

You'll probably find the boat you want at a dealer's with a wide choice of models. About the most commonly used boat for inland water is a 14-foot runabout used for fishing, so the dealer will probably have many of these on hand. Select the boat you like and match it with the recom-



When buying a boat remember that the base price is for the boat only. It does not include accessories like motors or lights.

to cut that initial cost down to your size. One of the common mistakes is to buy a family boat that is too small. After the family members use the small rig awhile they often trade it in for a larger one. Oftentimes the smaller outfit is in fine shape and ready to be used.

If that final total scares you, "don't give up!" Maybe you can find the time and courage to build your own boat. Detailed instructions and the right tools can help you pull that cost down.

Safety on Water Is Important

Since we haven't mentioned safety, don't you forget it when on the water. The Coast Guard requires you to have life jackets for each person aboard, and that you observe the load limit posted by the manufacturing firm. It's important to set up a group of sensible rules for the water and never break them. In short, always use good sense. Some lakes and harbors have regulations for water traffic which you must follow when traveling in that area.

If you have a yen for the water and can't get the family talked out of the buying-a-boat notion, take a drive to the boat shop the next rainy day and look over the stock.

mended motor, and you are ready to pick out your trailer.

If you are having trouble deciding what boat you want ask for a trial run. You may be lucky enough or able to talk fast enough to get the boat for a weekend at the nearest lake. You can soon get an idea of how the boat handles and rides. Motors and boats handle differently when combined in various ways, so the test run is a clue to whether you would like the outfit.

So you found the trailer-motor-boat package you want and for \$1,995! Did the dealer tell you a life jacket is required for each person

aboard? You may also want a steering wheel and an electric starter. Battery cases are extra, as are remote controls for shifting gears and changing speed of the motor from the steering wheel. Oh yes, horns and lights are available, too. Upholstered seats are more comfortable but higher priced than the varnished wooden benches. By all means you will want the five-gallon fuel tank, which is also extra.

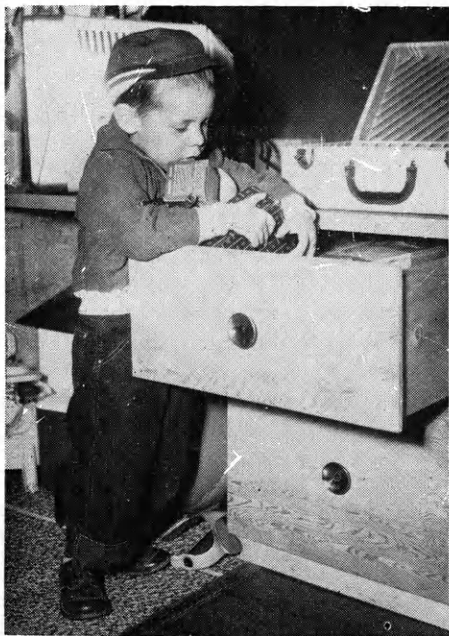
Used Boats Cost Less

Would you settle for a used rig that shows some scuffs and gasoline stains? If you would, there is a chance

Boating is good family fun and with a boat like this one you can take most of the family along, but don't overload—it's not safe.



Proper Guidance Prevents Problem Children



To correct this fellow, give him positive directions so he knows what is expected.

by Linda Hitchcock

REARING children isn't the easiest job in the world. Ask any parent and he'll also tell you that it takes a lot of patience and the right kind of guidance to help a child develop into a well-adjusted, well-rounded, self-directed adult.

Because the right kind of guidance is so important in achieving the desired results, let's look at it further. Guidance takes two forms—direct and indirect.

Direct guidance immediately influences the child's behavior by words, actions, or expressions. Always give directions in positive, specific terms. For instance, suppose Jimmy is throwing a basketball against the side of the house, each time coming closer

to a window. To guide Jimmy's actions away from a danger area, say to him, "Jimmy, throw the ball over here where there is no window." Here he has positive directions and knows what he is expected to do. By saying "Don't throw the ball near the window," he may wonder, "Well, where am I supposed to throw it?"

To guide a child through actions, a restraining hand may be all that is needed to stop a particular act. Words may not be necessary at all.

Children Are Sensitive

Children are very sensitive to the feelings and expressions of adults. A smile or an encouraging glance is sometimes all that's needed to show approval, whereas a frown conveys disapproval. They can tell when you're tired and irritated, too. They may find it fun and a real challenge to make you even more upset. A good sense of humor may save the situation.

Now, an explanation of indirect guidance. This is the manipulating of environmental conditions for satisfactory behavior; choosing and buying appropriate toys and equipment, and planning a schedule that alternates vigorous play with quiet activities.

If you don't want Johnny to upset your prize-winning petunias while he's playing, move them. Two persons' feelings will be spared this way. Or, if Stevie has an aggressive attitude and beats on everything in his path, rechannel his actions by giving him a hammer and peg board and let him pound on this. This will release his feelings of frustration and save the furniture (or his younger brother). Indirect guidance reduces the need for direct guidance.

Here's another suggestion. Give

When correcting children be firm, but not dogmatic. If you leave something for the child to decide, be sure that it is stated so he can't refute you. Suppose you say, "will you eat your carrots?", all he has to say is "no." He answered your question.



This little girl has a healthy respect for her mother's directions but she also knows that she is important to the family. Her mother has given her a chance to behave.

the child a choice only when you intend to leave the situation up to him. Otherwise, if you ask him "Are you ready for bed now?" and he says "No!", what can you as a parent do? After all, you asked him.

In this matter of choice making, it is important that a child be given some freedom of making his own decisions. It helps teach independence and develops a sense of responsibility. But the choice should coincide with the child's ability to cope with it.

This brings us to another important aspect in the guidance of children. Remember that each child is an individual and should be treated as such. The type of guidance that is right for one child may have the opposite effect on another, even one in the same family.

The so-called "modern concept" of child guidance—freedom within controls—didn't develop over night. In fact, it's been developing since the early 1900's, going through three rather controversial stages.

"Father Knows Best"

Before the twentieth century, authoritarian family patterns of living were the basis for child-rearing practices. "Father knows best," or at least that's what children were taught to believe. There was no chance for freedom of expression on the part of the children, since parents ruled the household, sometimes with an iron hand.

Do you know why this heartless system of child guidance didn't result in generations of thwarted and unhappy adults? It was because of the economic situation of the time. The home was an economic institution and it took the whole family cooperating together to provide the necessities of life. This type of family living naturally created feelings of achievement, recognition, and security in children. Their productive role in the family gave them a sense of belonging and for this reason they could withstand the strong parental controls.

The second stage was a complete reversal of the authoritarian concept, and this stage was known as the extremely permissive stage. Now "Junior rules the roost." Picture Junior



standing behind an elderly guest in his home. He is holding a teakettle of boiling water over her head, just ready to pour it on her. Mother, sitting near by, asks Junior, "Do you really think you should?" Perhaps this is somewhat exaggerated, but it's illustrative of this type of guidance.

Junior Lacked Stability

It is interesting to note that this extremely permissive stage developed at the early part of this century when technological progress and industrialization altered family life and children became significantly unimportant in family activities. At the same time, the worth of the individual was being stressed and parents were being warned that frustrations of young children would have long-lasting effects. So, rather than cause any of these frustrations, children were allowed to do as they pleased. Children did not have the feelings of stability which were possible earlier when they

were needed to assist with family chores.

Now the third type of child guidance has evolved, taking its position between the rigid and the permissive types. It is now a process by which demands are scaled according to the abilities of the child. Authoritarian guidance often made children feel humiliated because they could not meet the standards expected of them. Extreme permissiveness gave them no standards to strive toward. But the new way respects children for their efforts to act independently, yet insists they find acceptable ways in which to express their independence. This is freedom within controls.

Whatever type of guidance you give to your children will depend on many things—yourself, your family experiences, and, most important, your child. Treat him as an individual—that's what he is—and give him the type of guidance he needs to become a happy, well-adjusted adult.



Don't Forfeit Your Wa

Know Yo

No farmer wants to make expensive investments in irrigation equipment without being assured of his water rights. Know your water rights and protect your water supply.

by David Good

NO-ONE who has ever watched his crop burn up because it didn't get that "last inch of rain it needed" will disagree with you about the importance of water in Kansas. Neither will a fellow disagree who has had to haul water for family use, or to his cattle because his well went dry.

And no-one will disagree with you that the use of water in Kansas is increasing. Irrigation, for instance, one of the big water users, was used on only 100,000 acres in 1945 but increased to 900,000 acres in 1958. Total water use in the state was expected to more than double between 1950 and 1975.

Since the supply of water in Kansas is not increasing, the competition for existing water is keen and competition will continue to increase as the need for water becomes greater.

Legal Rights Are Important

No farmer wants to make expensive investments in pumps, pipe, ditches, wells, and land leveling only to find his water supply exhausted in a few years or be told that he has no right to the water he is using.

This means that you should know your water rights. Our Kansas law states that unless you were using water prior to June 28, 1945, you can get an irrigation water right only

by applying to the Chief Engineer, Division of Water Resources, Kansas State Board of Agriculture, in Topeka. You don't have to apply to establish domestic and stock-watering rights, but you may wish to do so. It may prove useful in case of a lawsuit, since you can prove when you started using the water.

This law does not state that you have to have a permit to drill a well or pump from a stream for irrigation purposes but you have no legally enforceable water right, except for domestic and stock uses, unless you follow this procedure. Your neighbor may drill a well across the fence from you, apply to the Chief Engineer, get his water right, and force

you to stop pumping because you are interfering with his water right. And this is perfectly legal if you have not followed the set procedure and established your own water right.

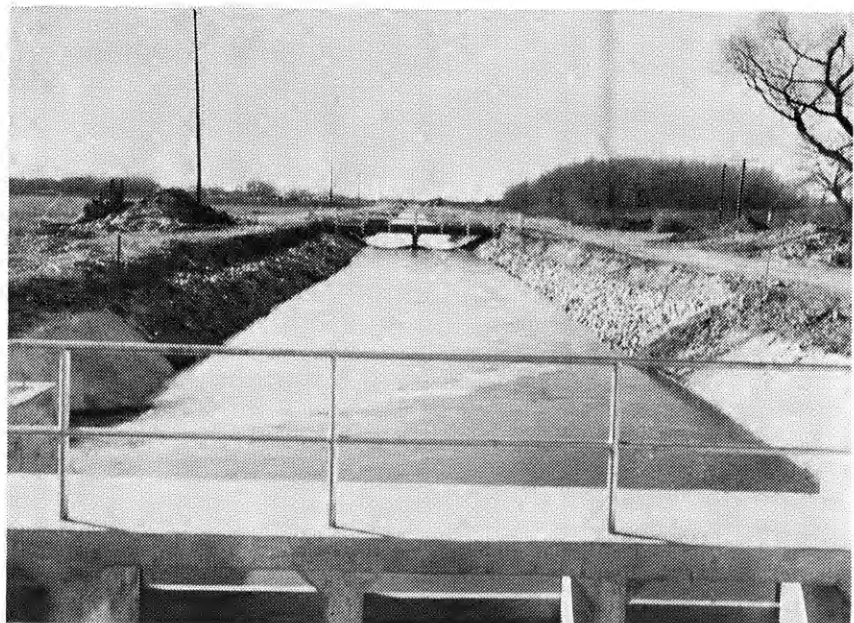
After you apply to the Chief Engineer and your application is approved, you must go ahead and set up your operation within a reasonable length of time. When your set-up is operational, you notify the Chief Engineer. Your operation is checked to see how much water you are using. They then issue you a certificate for this amount of water and it is recorded in your county courthouse.

Beneficial Use Is Required

You now have a legal water right, but just what does this do for you? Under the appropriation doctrine of Kansas, it gives you the right to use the water for beneficial purposes. The right is acquired by use and can be lost by failure to use within a reasonable length of time.

The priority of rights is based on time order. If you have a right to

Many irrigation districts being set up in Kansas use canals to carry water to farms.



our Water Rights

1,000 gallons of water per minute from a stream, it protects your right. If someone upstream secures a right to use from the same stream after you have acquired your right, his right is subordinate to yours. In case the stream should dry up so that it wouldn't run more than the 1,000 gallons per minute, the person upstream would be forced to stop pumping so that you could have your water.

Vested rights take priority over all appropriation rights. For instance, if you were putting water to beneficial use before the appropriation act was put into effect on June 28, 1945, you would have had a vested right for that amount of water. You would have had priority over all appropriation rights, but this right, like other rights, might have been lost due to non-use or failure to continue to use the water for a beneficial purpose.

Water Rights Are Specific

Your water right is also specific as to quantity, place, and purpose of use. Any change in use or location of use must be authorized by the Chief Engineer. If you want to expand and pump more water from the same source, you must obtain an additional water right to make it legal.

The appropriation doctrine is applied to water of all sources in Kansas. It recognizes the relationship between ground waters and surface waters and provides a system for coordinating rights between them. If pumping from a well can be shown to be detrimental to a stream flow or vice versa, the earlier rights will be honored.

Under the Kansas water rights statute, certain water uses have been

rated more important than others. They are in order of importance: domestic, municipal, irrigation, industrial, recreation, and water power. But if an inferior use has a prior water right, this right can be taken from him only by condemnation for public use and the holder of the right must be fully compensated. However, water rights may be bought and sold by mutual agreement.

Laws Deal with Run-Off Water

The Kansas law of water rights also covers run-off and flood waters. The many irrigation districts being set up below the larger dams in our state are relying mainly on flood waters that they have caught. Most of them do not have rights to diminish the normal flow of the rivers for irrigation purposes, unless there is unappropriated water in the normal flow of the river. This is because many cities depend on the rivers for their water supply, and most of them have vested rights, since they were

making beneficial use of the water before June, 1945.

Do you have a creek running through your field that manages to go on the rampage every spring and wash your corn out just after you have planted it? Have you been planning to build a dike along this nuisance and control it? To do this you must have the approval of the Chief Engineer of the State Division of Water Resources. He must be convinced that the dike you are planning to build will not change the channel, flow, or volume of the stream to anybody else's disadvantage. If by repelling the flood water from your lands, it increases the flow of the stream so that it floods your neighbor's land, you may have no right to do so and your construction plans probably will not be approved.

Or you may want to build a dike to prevent surface water from upper lands from running across your farm. You may do this with the approval of the Chief Engineer if the owners of the upper lands have not built dikes to prevent the overflow.

But you can't place an obstruction of any kind in a channel or bottomland without providing sufficient outlets for any reasonably anticipated overflows. And you can't change a stream channel or divert water on someone else's property without being liable for damages incurred.

As the need for water increases, your water will become more valuable. Know your water rights so that you can protect your water supply.



Use your water for beneficial purposes, or your legal water rights may be taken away.

New Styles Lead

Spring Fashion Parade



*Here is a preview
of the latest Spring
and Summer fashions.*

by Doris Imhof

HAVE YOU started thinking yet about that new Spring hat or dress you're going to buy, or maybe a charming suit for some very special occasion? If not, it's high time you start! With Summer just around the corner there will be many splendid fashions available to suit your fancy for any occasion. In selecting your ensemble, you'll be most concerned with new fashions, fabric, and color.

Color Combinations Are Unusual

Don't be shocked by the unusual color combinations for Spring and Summer. The fashion picture this season focuses on light, bright colors in excitingly new combinations. Some of the most popular ones you'll see are bright blue with grass green, powder blues with violet and purple, and orange with shocking pink. Shrieking stripes combining orange with golds, pinks, and greens are this season's hit. Colorful wild designs

Stripes such as these will be a big hit in your new spring wardrobe this year. Bold colors and wild designs combined with new fabrics will give you much to choose from.

will also be very popular this Spring and Summer. Prints range from bold and abstract designs to water-color impressions. There will be flowers by the yards. These are likely to be larger and more blurred than in last season's prints.

Accessories May Vary

Accessories may repeat the color and shape of your outfit, add color, use contrasting colors, or pick up colors and variations of their shade.

In the field of fashion it appears that you'll be smartly dressed this year in a jacketed suit, short and double breasted, and casually tailored. Add gloves and hat and you're ready for church, shopping, or travel.

Now It's Accented Hiplines

The two-piece look, a skirt with the overblouse cropped at the hipbone, is very stylish. Accented hiplines are identified with supple silhouettes for Summer. The accented hiplines are made even more daring with the use of self or contrasting belts, which circle the widest part of the hips.

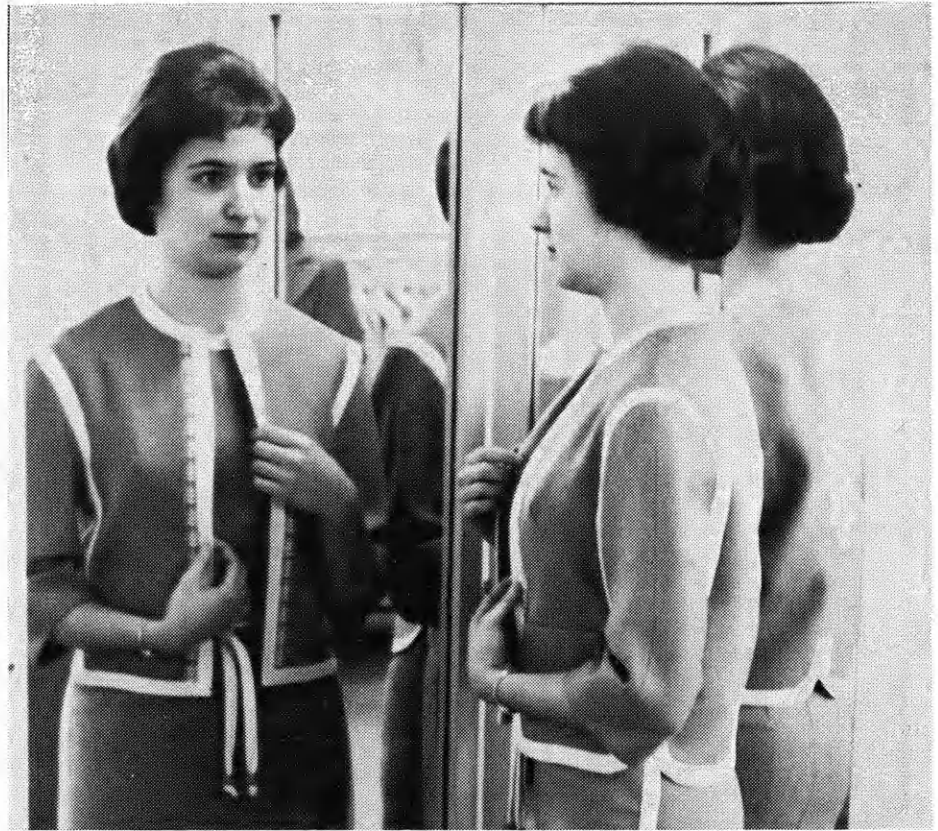
Jacket dresses will be sensational this Summer. An outfit of this type can be worn with or without the jacket, especially if the dress is sleeveless. The majority of Summer dresses for 1961 will be sleeveless, and hemlines will be at least an inch shorter than last year.

In choosing your new Spring or Summer outfit, consider the fiber content of the fabric. This is important in determining the amount of time, money, and work required to keep your garment looking its best. Before purchasing, you should carefully evaluate the merchandise and compare the cost in relation to wearability of the fabric. Be sure and read the instructions for laundering or cleaning.

Cotton Ranks Number One

In considering the large array of fabrics to choose from, cotton still ranks number one. The ever popular wash-and-wear cottons are as appropriately worn to the finest restaurants as they are in your own home. You will find that these fabrics pack and unpack with very little wrinkling. They can be washed and dried quickly and are ready to wear with a minimum of ironing.

As never before, there is an abundance of silk fashions for Summer



Jacket dresses, which add flexibility to your wardrobe—as they may be worn with or without the jacket—will be an even better buy this year, since they are very popular.

styles, and they're perfectly sized for the American woman. For your convenience there are silks that are care-free and wrinkleproof, silks that pack easily and travel smoothly. You will find silks to play in, to dance in, and to swim in.

Antron Substitutes for Silk

Since silk is going to be popular this Spring, you might like to try a new fabric called Antron. This is a nylon fabric that looks and feels like silk, but wears much longer and isn't as expensive. Its resemblance to silk is so close that even textile experts have a difficult time telling the difference.

Now you can get a head start on Summer with Arnel. Arnel lets you forget about creases, wrinkles, and laundering instructions. 100% Arnel triacetate washes in the machine, irons without a shine, and stays white or keeps its color. Arnel means your pleats will stay pleated. You can pack and unpack without fuss.

Very popular this Spring will be 100% Arnel triacetate sharkskin for suits and skirts. Rating high on your popularity list will probably be the Arnel jersey dress for traveling, which has an extra jacket that contrasts

with the dress. Arnel jerseys for travel this Spring and Summer offer black-white checks, sun-dots, oriental pink on white, and paisley blues. Some dresses available for you to choose from will have pleated skirts; others will have bloused jackets.

Linen of various types including imported Irish linen, despite the fact it wrinkles easily, is always popular for your Spring suits, dresses, or skirts. Some of the better linens are treated to make them crease resistant.

If none of these meet your particular need or occasion, you may wish to choose a Spring suit of light Dacron polyester and worsted wool.

Be Practical and in Style

In buying your Spring outfit you need to be practical as well as chic. Is it becoming to you (style and color)? Will it be an addition to your wardrobe that you can really use? Do you own proper accessories for it or will you need new ones? With these thoughts in mind regarding FASHION, FABRIC, and COLOR and after you have carefully and truthfully considered these questions, you are ready to select your new Spring and Summer ensemble.

To Reduce Risks



Dry Your Grain



Low initial cost of equipment, low operating cost, and easy utilization are why this farmer is using forced natural air for grain drying.

by Claudette McInnis

FARMERS have become more aware of the usefulness of grain drying since the year 1957, which was an extremely wet year for Kansas and made natural field drying difficult. With improved harvesting machinery, grain is now being harvested earlier. In many cases, the crop is cut before the grain is dry enough to store. This means that some method of drying must be used to lower the moisture if the grain is to be stored safely.

By drying your grain you reduce the weather hazard, get the crop to market early, and are able to harvest corn with a corn picker-sheller and still store it. For safe storage the moisture content in your grain must not be more than 12 or 13 percent. This level can be reached by using one of three proven methods which

are: forced natural air drying, supplemental heat drying, and heated-air batch drying.

In Kansas most grains that are dried are fall-harvested crops, milo and shelled corn. Natural air drying is recommended for the operator who is planning to store his grain on the farm for feed or spring marketing. The advantages of this system are the lower initial cost of equipment, lower operation cost, and ease of operation.

Natural Air Method Is Slow

Natural air-drying equipment costs about \$250 to \$300. Nearly all farm-type grain bins or general-purpose buildings can easily be adapted to forced ventilation by installing equipment that will provide a uniform distribution of air through the grain.

The forced air method may take several weeks or all winter at inter-

mittent operation because of high-humidity and low-temperature weather. However, this method will keep grain from heating during fall and winter months. During good drying weather grain can be quickly dried, usually in 2 to 4 weeks. A small fan is used to blow the air up through the grain and no heat is used. This system does not guarantee to dry high-moisture grain in a certain period of time.

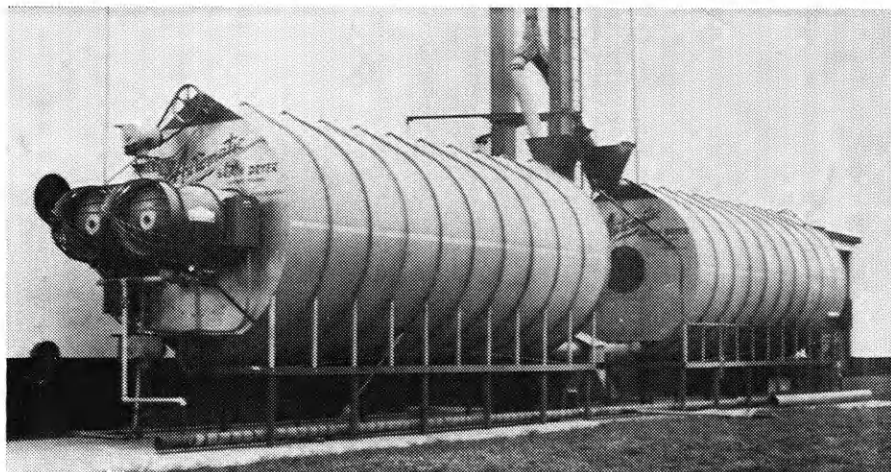
Supplemental heat drying is a variation of the natural air method, in which a burner is used to heat the air that is circulated through the grain. The best thing about this method is that natural air-drying equipment can be used without any change along with the supplemental heat burner. The supplemental heat dryer is the lowest cost dryer, with an assured drying rate in severe weather conditions. The burner adds heat to the air, which raises the temperature 15 to 20 degrees and shortens your drying time. The burner added to ventilation equipment of the natural air method costs about \$100.

Batch Dryers Are Expensive

Grain can be dried for storage by heated-air batch dryers in any kind of weather and from any moisture content. However, there is a much higher initial cost for equipment, more expense for fuel, some fire hazard, and considerable control of machinery is required. This unit dries grain rapidly with high-temperature air. Drying takes about 2 to 4 hours, varying with the

(Continued on Page 18)

Drying time for a heated air batch dryer is about 2 to 4 hours. Grain can be dried for storage by this method in any weather condition and from any moisture content.



Plant Flowers for Pleasure

Attractive flower gardens require careful planning.

by Nancy Smith

IF YOU HAVE an attractive flower garden, you have an Eden of your own. You can plant pleasures every year and reap a wholesome harvest. The hard work involved is quickly forgotten when a beautiful garden blooms.

An attractive garden requires planning and thought. If you plant haphazardly you may be disappointed in the results. If you like you can have a garden that will bloom almost the year round.

Two main factors that affect the type of flowers you will plant in your garden are site and weather. If you want winter-blooming plants (early spring or late fall), your flower bed will be more successful on the south side of a building or a south-facing slope. Protection from cold winter winds is important.

Windbreaks Protect Plants

Lath screens, a "fence" of corn-stalks, discarded Christmas tree branches, or an evergreen hedge will help shield your garden from cold winds. If some of your flowers are from another climate, you will want to make them feel as much at home as possible. Soil as well as climate must be adapted to your plant.

For a summer flower garden you will want to protect your plants from the sun and heat instead of exposing



Flowers are easily damaged by wind. In order to protect them it is a good idea to use a hedge to keep hot winds out, and shade plants from the sun.

them to it. At this time a north side of the house, or some other site protected from the sun, is best.

Weather is a very important factor in gardening. Plant your flower garden with average blooming time in mind. If there are deviations from the normal in the weather cycle, you can expect changes in your blooming time.

Flowers do not bloom continuously. Some bloom longer than others, but a gardener uses his favorite plants only after careful consideration.

When will the plant bloom? A gardener has to plan his flower bed so complementary colors are present at the same time.

Is it a tender or hardy annual plant? Hardy annuals live but a

single growing season. They set their seed, then die out. Tender annuals are usually of tropical origin and need a longer growing season to complete their life cycle of blooming and seed setting.

Perennials Are Permanent

Is it a perennial? If it is, it will come up every year from old root-stalks, roots, or stems. It should be set where you will want it permanently. Perennials are usually purchased from a dealer, though with patience they can be raised from seeds.

What will be the probable height of the plant? Growing conditions may affect this question but estimations can usually be made so you'll

(Continued on Page 18)

Good Management Will Make Irrigation Profitable

Before considering irrigation on your farm, calculate how much it will increase your profits.

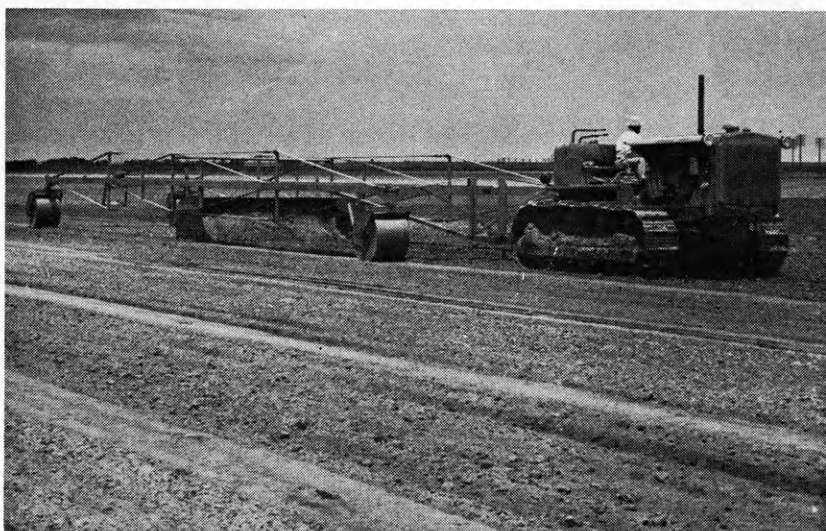
by Donald Haberer

ONE OUT of every forty acres of cropland in Kansas is under irrigation. As this figure grows farmers should be aware that good management is a very important factor in irrigation.

Should you consider irrigation in your farm program? Dr. Hyde S. Jacobs, assistant professor of agronomy at Kansas State University, said, "A farmer considering irrigation as an expansion of his farm operations needs to calculate how much it will increase his profits, not just his yields."

The expense of setting up an irrigation system is so great that it must be utilized to its utmost in order to receive a fair return on your investment. Because of this, full evaluation of your own particular situation must be made before logical decisions can be reached.

We know that irrigation provides water to the soil for use by crops. Even though water is the basis for irrigation, there are many other re-



Land leveling is expensive but when done you can use gravity irrigation. This system usually costs less to operate and requires less labor to do a good job.

sources and factors of production that are just as important to the system's success. Profitable irrigation depends not only on water but on management, capital, labor, and land. Unless these factors are given strict attention, the potential of an irrigation system can never be fulfilled.

Test Water Before Using

Let us consider the resources needed and expense of an irrigation system. What kind of water supply do you have available? Is the quantity great enough to provide seven to ten gallons per minute for every acre under irrigation when water use is at its peak?

Just as important is the quality of the water supply. All irrigation water contains some salt and sodium, which are hazards of irrigation, and can easily ruin land within 10 to 25 years. It must be emphasized that any potential source of irrigation

water should be tested before being used.

Approximately 85 percent of the irrigation water used in Kansas comes from wells, which produce a limited water supply ranging from 200 to 2500 gallons per minute. At an average cost of \$30 to \$65 an acre for the well and pump, the well must be used as many days of the year as needed to obtain highest returns.

Streams Supply Water

Streams are also an important source of irrigation water in Kansas. However, most of the streams in the state are unreliable during the critical months of July and August, when rainfall is normally insufficient for top production of field crops. Salt content fluctuates with the flow of water, having a much higher percentage when the stream is at its lowest level.

Irrigation districts, that get their



Irrigation assures water to your crops at crucial times in the growing season, which increases yields, but it takes more capital investment, time, and labor.

unit if your supply is a well or stream. In irrigation districts, water is delivered to your farm by ditch and if you use gravity irrigation, pump and power unit will not be needed. Gravity systems usually cost less to operate and require less labor.

You May Need Sprinklers

If it is not economically feasible to level your land, sprinkler irrigation may solve the problem. Installing sprinkler irrigation systems will cost anywhere from \$45 to \$90 an acre, mostly on depreciable equipment. Operation costs and labor requirements are greater than for a gravity system.

There are no hard and fast rules to follow in selecting the type of system to use. Consulting an irrigation engineer or someone with experience in sound irrigation practices will make your decision easier and will save you money in the long run.

Practice Proper Management

Good management is the most important factor in an irrigation set-up. You must know how to control such physical factors as planting rates, crop varieties, available plant nutrients and moisture. Complete records should be kept on all operations to assure a basis for determining the most profitable production. Knowing when and how much to irrigate, and then getting it done on time is essential in the operation. A crop like alfalfa should be watered within three days after it has been cut. Every day of delay lessens the chance of getting that extra cutting and reduces hay yields.

Irrigation is not guaranteed to be the right practice for every farmer. But if you do have an adequate supply of quality water, land that is irrigable, plenty of efficient labor, and feel that you can successfully manage such an enterprise, then irrigation may pave the way to greater profits for you.

water supplies from large multipurpose reservoirs, are developing in various parts of the state. These districts supply large quantities of water during a limited part of the year, usually from May to October. During initial development of these districts, water is provided at cost. Afterward, the project is designed to pay for itself and water costs will seldom be less than \$10 per acre.

Soil Must Be Well Drained

Going hand in hand with water quality is land quality. Land is of little value unless combined with other resources. However, when used capably it becomes valuable and represents a sizeable portion of your production costs. Probably the most important requirement of irrigable land is that the soil be well-drained. The salt in the water must be leached out easily and drained away so as to prevent permanent damage to the soil.

Salt usually affects sandy soils less than silt or clay soils because it can be leached out much faster. Plant nutrients will be lost more rapidly from a sandy soil; therefore it will demand more care and fertilizer to maintain high yields.

Fertility of soil under irrigation is not a serious problem because commercial fertilizer is readily available. Although not the largest expense, fertilization costs must be carefully calculated by the farmer planning to

irrigate. It does not pay to partially fertilize, because fertility must be maintained at levels that give maximum plant growth.

Irrigation requires much more capital than normal dryland farming. Capital must be available for both investment and operation. Careful decisions are necessary when allocating capital to each use.

Investment capital should be great enough to cover complete installation costs of your system as a unit. You cannot buy one piece of equipment a year and expect to do the job satisfactorily.

Capital investment is directly concerned with the type of system you choose, either sprinkler or gravity. Both have advantages and disadvantages which must be fitted with other resources.

Land leveling for gravity irrigation normally costs between \$25 and \$100 an acre. On top of this you have the cost of a pump and power

Irrigation is applied to land too rough for gravity irrigation by the use of sprinklers. The sprinkler system may be the answer for the upland farmer who has access to water and would like to irrigate, but he should plan carefully.



Dry Your Grain

(Continued from Page 14)

amount of moisture to be removed. Heated-air batch dryers range in cost from \$2,500 to \$6,000. This type dryer is recommended for the large operator or a group of small farmers. Equipment for this type drying is available at elevators and through custom equipment operators.

There is no doubt that drying equipment can be used with confidence, yet there are a lot of unanswered questions. One of the most important questions deals with the nutritive value of artificially dried grain. The wet milling industry has for many years had difficulty in processing corn artificially dried at high temperatures. Opinions vary about the effect drying grain has on its feeding value.

K-State Tests Dried Corn

A research project, determining the effect of various drying temperatures on the value of corn in beef cattle fattening rations, was carried out at K-State. Irrigated corn was harvested containing about 25 percent moisture. The corn was divided into three batches and dried to approximately 13 percent moisture by forced air under the following conditions: (1) control, no heat, (2) air at 180 degrees Fahrenheit, (3) air at 320 degrees Fahrenheit.

The corn dried at natural temperature showed no evident change; it still retained its color and full shape. When the corn was dried at 180 degrees Fahrenheit, it had lost some of its brilliant color and showed slight

separation of the husk from the grain. That dried at 230 degrees Fahrenheit showed greater separation of the husk and grain, and the starch portion of the kernel looked like limestone. According to Dr. D. Richardson, animal husbandry professor at K-State, "There was apparently some loss of original properties of the protein, and the starch became jellylike."

When the grain was stored, the corn that had been dried at 230 degrees was untouched by rats. In the feeding trial, cattle refused to eat the high-temperature dried grain for the first 24 hours. However, palatability was not a serious problem after the cattle became adjusted to it.

Three lots of 10 Hereford heifers, each averaging 466 pounds, were fed the grain dried under the above conditions for 215 days. Feeding results showed no significant differences in the rate of gain, feed efficiency, dressing percentage, marbling or carcass grade. However, the proportion of propionic acid, which is necessary for fattening, increased at higher drying temperatures, with levels of 23.2, 26.7, and 28.1 percent, respectively, for the control, 180 degrees F., and 320 degrees F., drying temperatures.

Dr. Richardson advised, "If you want to keep your cattle on feed, don't switch from normally dried grain to artificially dried grain in your feed rations."

As grain dryers are becoming more popular, farmers have more questions arising, and, even though many have not been answered, a grain dryer can cut down on the hazards which face the farmer as better harvesting machinery is being used.



Plant Flowers

(Continued from page 15)

know where to plant in relation to the height of the other flowers in your garden.

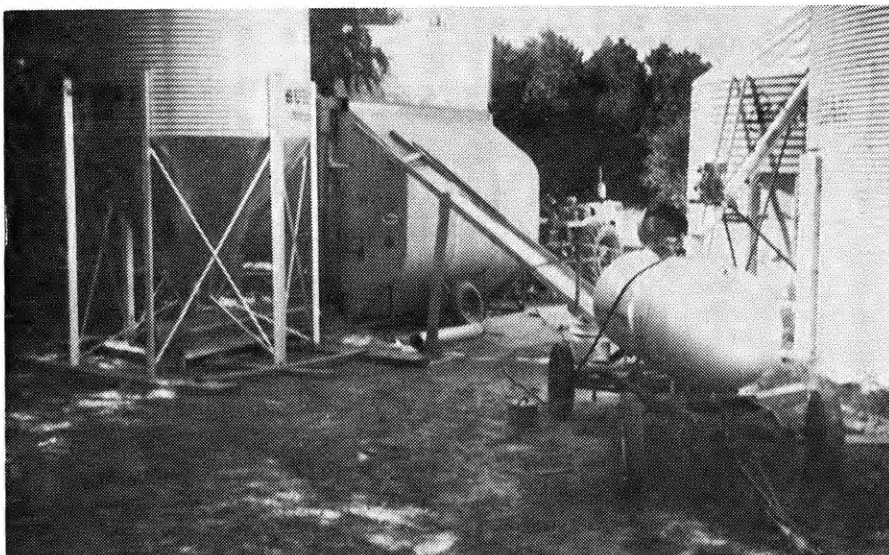
Trees, shrubs, and vines should be purchased from a reliable nurseryman. Young plants are far cheaper than older ones—often one-fifth the price. Seeds, bulbs, corms, and tubers should be purchased from a reliable seedman. Annuals and perennials can be bought from neighborhood growers, or other locally known sources.

A flower garden need not be expensive. Seeds are relatively inexpensive. Bulbs, corms, and tubers are a little more costly, but in most gardens only a few of these are needed. Perennials are more expensive flowers, while trees, shrubs, and vines cost the most. Your greatest cost will be the time you give to your garden, but if you really like to do it, you'll find time.

Though it is difficult to classify odors, there are several main types if you care to plant a garden for fragrance. These are: aminoid (hawthorn), heavy (jasmine), aromatic (clove pink), violet (violet), rose (rose), lemon (four-o'clock).

Flowers usually don't fit specifically into any one of these categories, but contain one or several of these fragrances in higher proportions than others.

Whether you own a large country estate or a small city lot, a well-planned flower garden can add an island of color to your landscape as well as provide a hobby you can take pride in.



A burner is used to raise the temperature of air that circulates through the grain in this heated natural air drying method.

LEARN more
EARN more

with

**BARNES & NOBLE
COLLEGE OUTLINES**

and

EVERYDAY HANDBOOKS

CAMPUS

BOOK STORE

WHO PAID FOR . . .

- * Danforth Chapel?
- * The Scholarship Houses?
- * Many of K-State's Scholarships?

The Endowment Association supplied funds for these and many other needed projects.

It is a non-profit corporation organized to hold and manage gifts to K-State.

When you graduate . . . you'll contribute each year for the betterment of K-State, won't you?

**UNION NATIONAL
BANK**

401 Poyntz

Tom Griffith, Chairman of Board

Woody's

Clothing Specialists
for
Kansas State University

1227 Moro



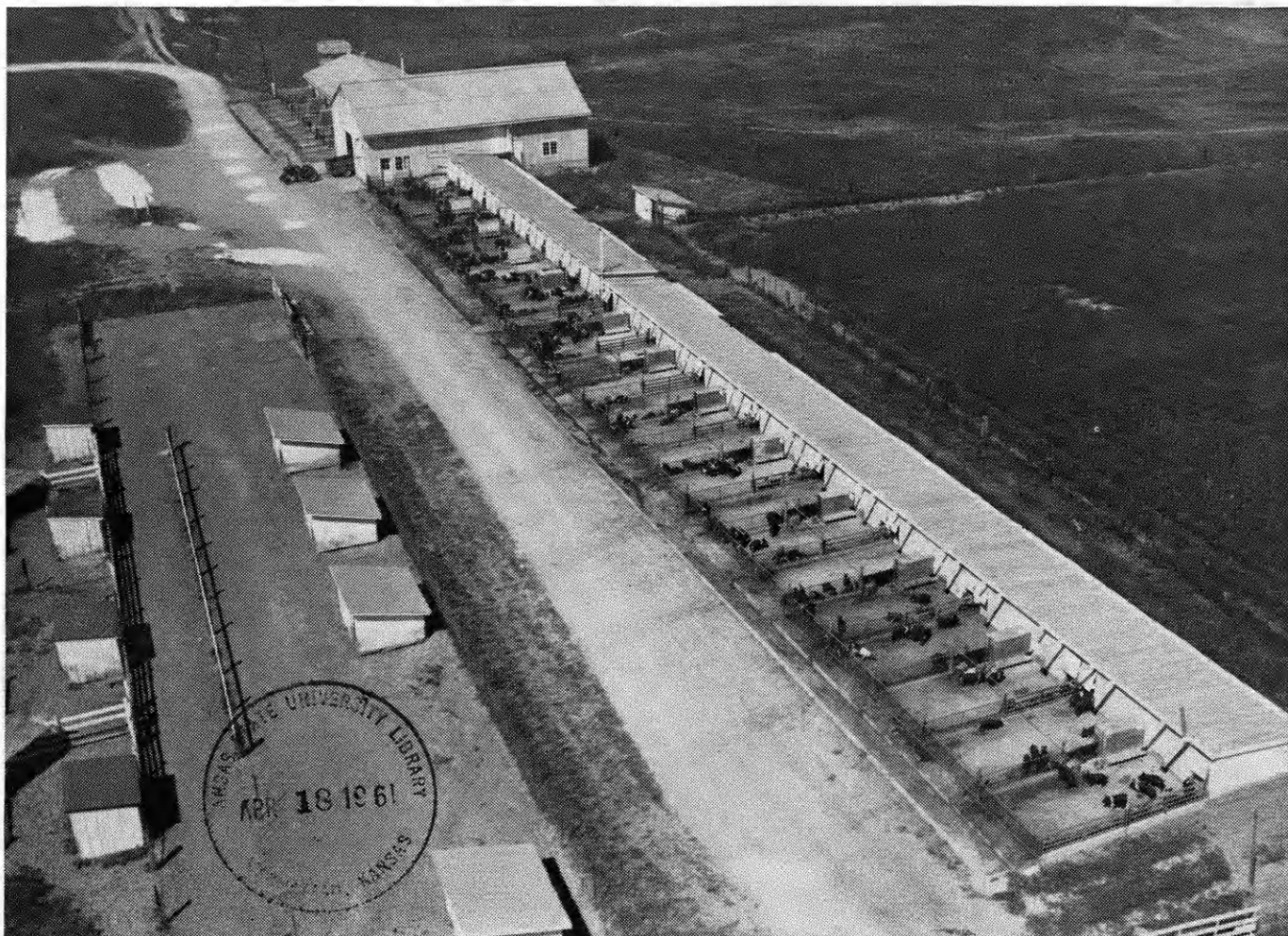
The Symbol of Security

With agents in all
Kansas Counties ready to
serve the Kansas farmer.

**FARM BUREAU MUTUAL
KANSAS FARM LIFE**
Insurance Companies

HOME OFFICE

MANHATTAN, KANSAS



A two-block-long yardstick for measuring cost of production

Only \$5.50 to \$6.00 worth of MoorMan's Mintrates* and about 9 bushels of corn will make a 200-pound hog. This low-cost pork production is no accident. It's a result of MoorMan's continuous Swine Research Program. Last year alone, tests with over 2,000 hogs were conducted on MoorMan's three Research Farms totaling 1280 acres. Here, effects of ingredients from vitamin A to tranquilizers were measured for effectiveness in producing faster, lower cost gains.

The result—better use of home-grown feeds

The low cost of production with MoorMan's Mintrates has been made possible through research and testing such as this. Mintrates are super-concentrates of vitamins, minerals and proteins. MoorMan's belief is that a farmer need buy only what he cannot raise or process on his farm. Mintrates, when fed with home-grown grains and

forages, supply the nutrients needed to help livestock get more of the meat, bone and milk-producing energy out of that feed.

MoorMan's sponsors University research

MoorMan research is aimed at the profitable feeding of livestock and poultry. But, the breeding of better animals cannot be overlooked. Realizing this—MoorMan's makes grants to a number of colleges and universities for needed research on specialized problems of animal breeding as well as feeding. The results will, of course, be made public, for the benefit of all livestock breeders and feeders.

MoorMan's*

Since 1885

Good Results Through Research and Service
MOORMAN MFG. CO., QUINCY, ILL.

*Trademark Reg. U.S. Pat. Off.