

● *How to Increase*

**YOUR
FARM
PROFITS**

The Situation

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The present agricultural situation presents a picture of large surpluses, large production and low prices for the products farmers sell, high prices for most of the products they buy, and resultant low net farm income. No material improvement in this general situation is foreseen in the immediate future.

The remedy is lower total production and lower costs per unit (per bushel, pound, etc.). The lower total production helps reduce surpluses. And income can be raised at the same time by lowering unit costs—in other words, by making enough more profit margin per bushel or pound to offset reduction in number of bushels.

Cost of production can be reduced on most farms. Hundreds of Missouri's good farmers have costs of production that are below those of the state average by one-third for crops and meat animals, by 25 percent for milk and eggs, and by lesser but still important percentages for broilers and turkeys.

A reduction in per unit costs usually results in a much larger increase in per unit profit. For example, decreasing the cost of producing eggs by 25 percent per dozen will increase profits per hen two or three times. Decreasing cost of production of milk by 25 percent increases the profit per cow three times.

Not all of the suggestions herein are adapted to every farm. Like all remedies, they require judgment in their application. The County Agricultural Agents in your county can advise you on which ones fit your operations and supply additional information.

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Up to 26¢ More Per Bushel

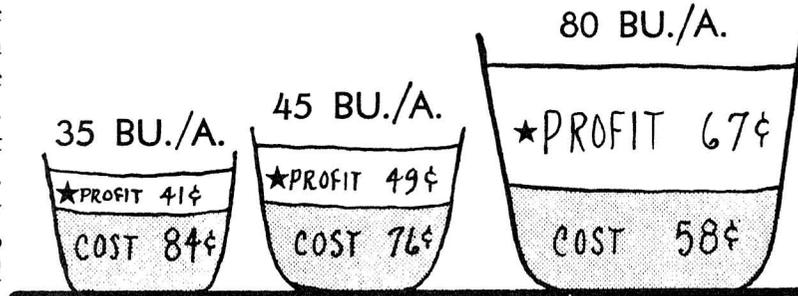
How much do you make on a bushel of corn?

In the same community, the amount of profit neighbors get from a bushel of corn varies widely. This is due to a difference in their success at keeping costs low.

You can cut the cost per bushel by increasing the yield per acre. And the key to bigger yields is the proper use of fertilizers, along with improved varieties of seed that make full use of the additional plant food. Cost per acre may be higher but it is spread thinner over more bushels.

Other important items in low cost production are choice of crop and livestock combinations, seed treatments, seedbed preparation, weed control, harvesting methods and timeliness of work.

Proper soil treatment gives more bushels, less cost per bushel.



★ With corn at \$1.25

More Profit from Fewer Acres and Bushels

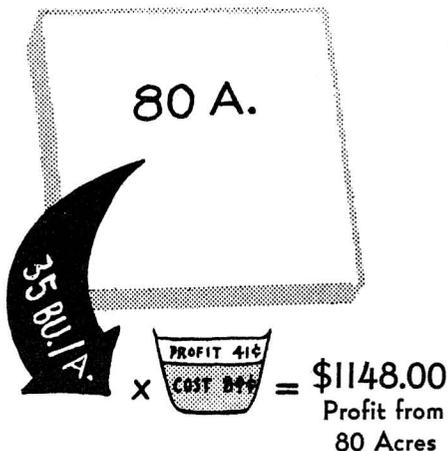
During the past five years, Missouri farmers have produced slightly more than 4 million acres of corn annually, with an average yield of 35 bushels per acre. The cost was about 84¢ per bushel.

If the state average could be boosted to 45 bushels per acre the cost would be lowered to about 76¢ per bushel. At 80 bushels—an average reached by many good corn growers—the cost would be only 58¢. With such a state average we could plant 2½ million fewer acres, raise 20 million fewer bushels and still get \$23 million more net income.

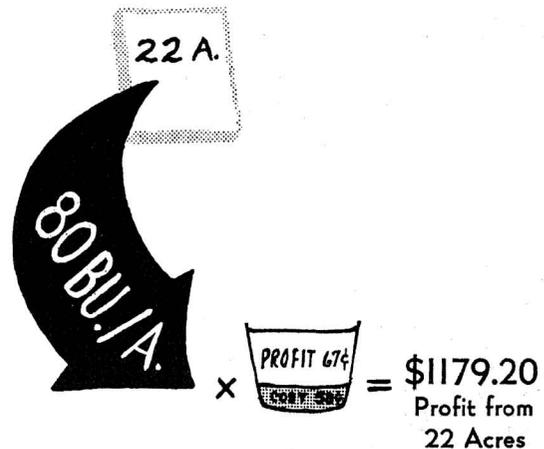
The drawings below show how much less land is needed to produce a certain net income with 80-bushel corn than with 35-bushel corn. You get more profit per bushel as well as more bushels per acre.

Of course, the problem on each farm isn't as simple as these figures suggest. Still, the state's average yields give lots of room for improvement. A lot of Missouri's 19 million acres of crop land—perhaps as much as one-fourth—is scarcely paying costs of production under its present system of management.

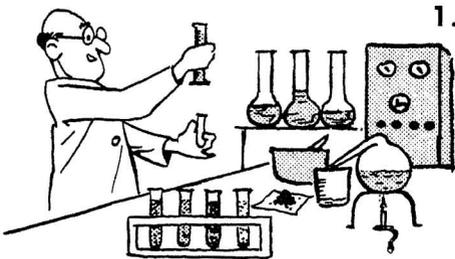
NO TREATMENT



PROPERLY FERTILIZED



To Get Most from Fertilizer



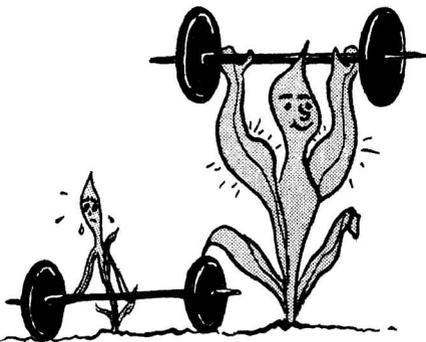
1. Test Soil

Have samples of your soils tested to see what plant nutrients are needed. This will save money on unnecessary minerals and help you get the balance necessary for high yields. Any County Agricultural Extension Office can have tests run for you.



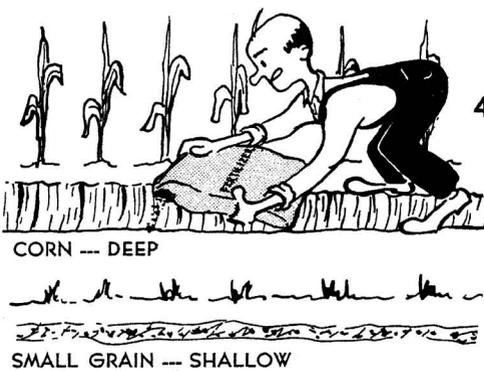
2. Feed Plenty

Apply enough of the minerals that your soil is short of to bring yields as big or bigger than those being obtained on the best farms in your community. When you apply too little, it may stimulate early growth, then let plants starve before they mature. Don't be afraid of heavy applications. Most nutrients not used by this year's crop will be available for next year's —except on sandy soil.



3. Use Variety That Can Do Job

Use varieties and rates of planting that will make full use of this additional fertility.



4. Apply Properly

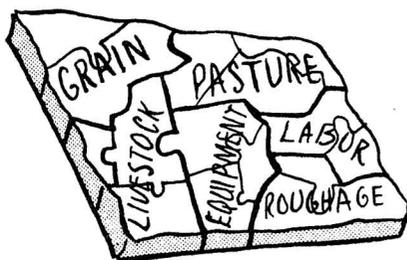
Application with the seed is satisfactory for small grains. For corn, pastures, and other crops that make most of their growth in the summer, fertilizer should be applied deeper. Most of the roots of such plants are below the top 4 or 5 inches of soil and fertilizers applied on or near the surface are of limited help.



5. Control Erosion

Not only will fertilizer be lost by run-off and erosion but soils that are depleted of humus will lose their capacity to store water.

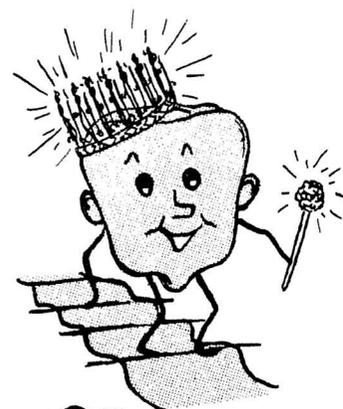
Find Best Combination



Use your most productive crop land for the highest profit crops. Use crops and combinations of crops and livestock that will most nearly keep your labor force fully employed, the equipment in full use, and bring in the highest net returns. County Extension Agents offer assistance in making Balanced Farming Plans to meet this goal.

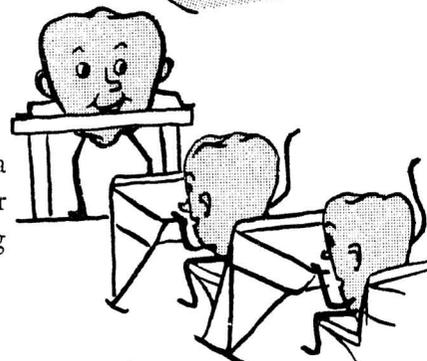
Use Quality Seed, Best Varieties

Use only high quality seed of recommended varieties. High quality alfalfa seed, for example, costs only 90¢ to \$1.35 more per acre than lower grades. Yields from it run from 1500 to 3000 pounds more hay per acre for a season, and the hay is higher in quality because the seed was cleaner. Your County Extension Office has lists of recommended varieties.



Take Advantage of Volunteer Seedings

This can be accomplished by (a) seeding small grains following lespedeza after it matures seed in the fall, (b) seeding small grains following sweet clover or red clover which has been harvested for seed, and (c) managing the grazing on pastures to allow periodic natural reseeding of pasture crops.

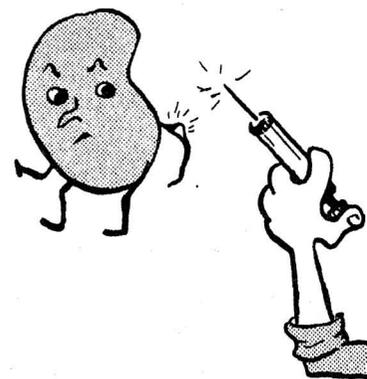


Treat Seed

Inoculate legume seed with proper strains of nitrogen-fixing bacteria. Proper inoculation, costing 10 to 50¢ per acre for the inoculant may increase yields as much as 25 percent, thus reducing the amount of nitrogen that the crop uses from the soil as much as 65 percent.

Treat seeds with recommended fungicides to control seed borne diseases. Materials costing 9¢ per acre to control smut and stripe of barley increase yields 15 to 25 percent.

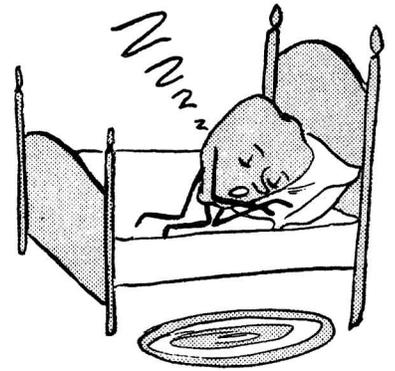
The use of insecticides often means the difference between a profitable crop and no crop.



Save on Seedbeds

Where possible, take advantage of seedbeds that can be prepared with little additional work or cost—such as seeding legumes and grass in small grains, wheat after soybeans, and small grains after corn or sorghum for silage.

Shallow, level cultivation of row crops on land where drainage is not a problem is cheaper than deep ridged cultivation. It also leaves land more suitable for a seedbed.



Control Weeds

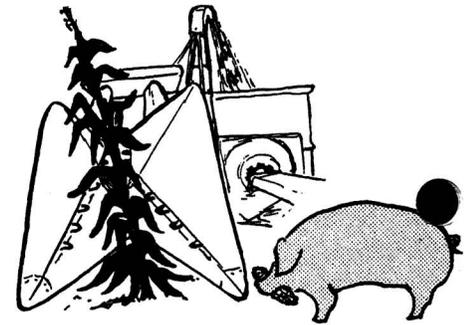
Cultivate row crops only when necessary to control weeds and correct compacted conditions. More frequent cultivation only adds to the expense and frequently reduces yields. Control weeds by using the most efficient combination of mechanical and chemical methods.



Trim Harvest Costs

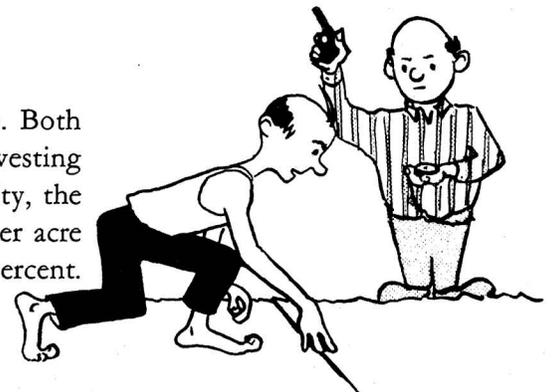
Move machines at recommended speeds and adjust properly. Check the operators manual that comes with the machine. Failure to follow these directions causes up to 15 percent grain loss.

Save costs by harvesting with livestock where practical: (1) Hog down corn. (2) Make use of rye, wheat, and sweet clover for early spring pasture. (3) Use ladino clover or alfalfa for hog pasture. These pasture crops will reduce the amount of protein supplement needed for a balanced ration by at least 25 percent.



Timeliness Helps

Each operation gives best results if performed at the proper time. Both yields and quality are improved by timely operations. For example, harvesting forage crops at the proper stage of maturity will increase the palatability, the digestibility, and the protein content of feed. The increased value per acre from timeliness in harvesting forage crops is often as much as 25 percent.



Look Before You Leap

Renovating marginal land by clearing brush, expensive water control measures, and high cost fertilizer and seed treatments should be avoided—unless their costs can be recovered quickly from resulting increases in yields. This is especially important if you lack the capital for long time investments.



20% More from Livestock

Missouri farms have about 2.7 million head of beef cattle and nearly a million head of sheep. Last year, Missouri farmers raised about 6.5 million hogs. The cash receipts by Missouri farmers from meat animals average more than half a billion dollars per year. Greater net returns could be obtained on smal-

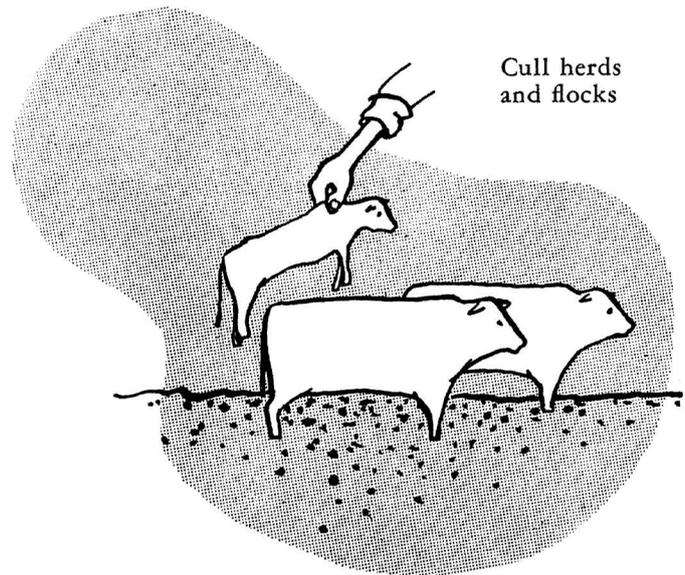
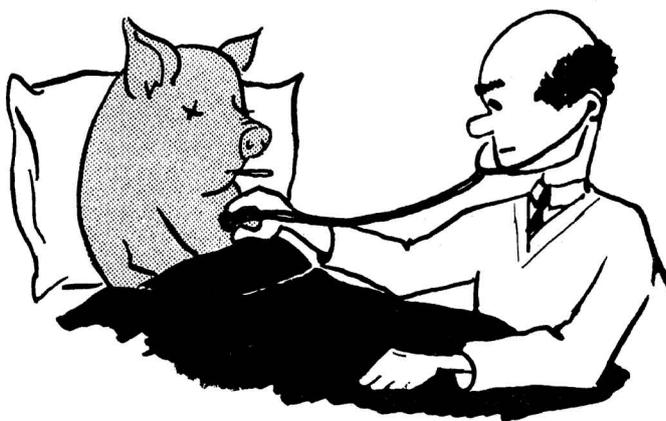
ler numbers—say 2.2 million cattle, $\frac{3}{4}$ million sheep, and 5 million hogs—if the advanced production methods used by the most skilled livestock producers were adopted. The following recommendations will give a 20 percent saving on livestock production costs.

Methods Used by Top Managers

General Recommendations

1. Cull low producing livestock from breeding herds.
2. Select replacement stock from high producing strains, as shown by records.
3. Breed quality into herds and flocks, largely through improved sires.
4. Cooperate in all programs to improve animal health and to control disease.
5. Study and develop methods of production which normally are best suited to your farm. But keep on the look-out for changes which would return more profit.

Join disease prevention programs.



6. Consider old and new labor saving devices but make certain before investing in one that it will result in a saving that will repay the cost.

7. Keep abreast of market demand and price trends. When possible, market each kind and each grade of livestock and livestock product at the time when prices normally are highest for that product.

8. Remember that roughage and pasture, used effectively, reduce the cost of producing livestock a great deal.

Swine Production

Produce large litters of meat-type pigs that gain fast from birth until marketed. Sell them on a graded basis when prices normally are at their highest. These are marks of an efficient manager.

Use highly productive strains of sows and boars of meat-type. Meat-type hogs sell for 25 to 75¢ more per hundred weight and take 5 to 8 percent less feed than lard types.

Breed sows twice while in heat. On the average, this increases litter size one pig. Feed a balanced ration, including roughage or forage. Use farrowing crates—they save an average of one more pig per litter.

Scrub farrowing crates and houses with lye water before putting sows in them. Use heat lamps when needed.

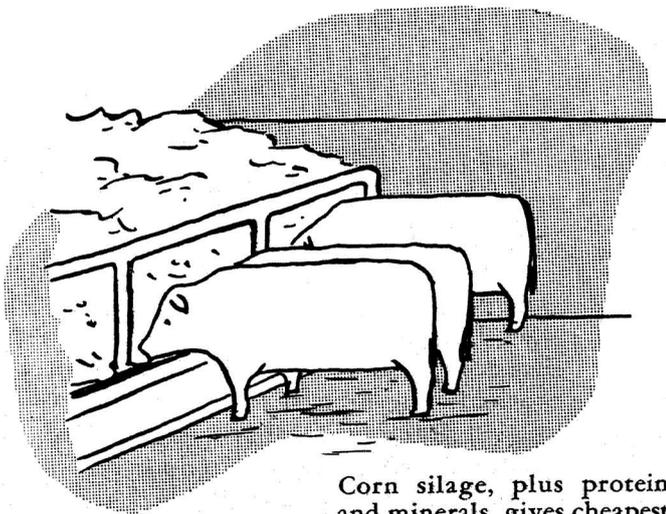
Put hogs on clean pasture—in fields in which hogs have not been kept for the past 2 years. This may save you 3 to 4 more pigs per litter and 25 percent in feed costs. Include antibiotics in the ration until the pigs weigh 100 pounds.

Cattle Fattening

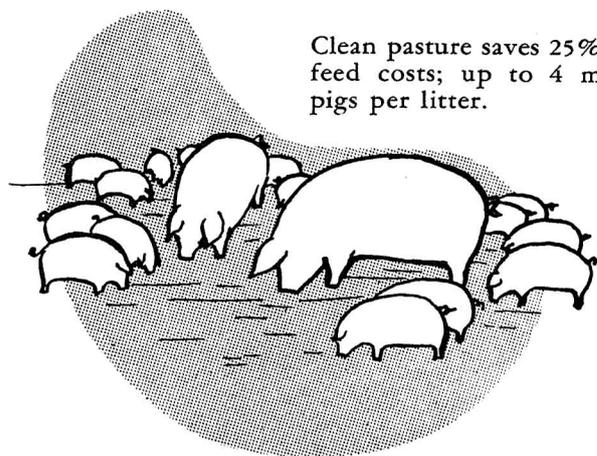
The purchase price of the animals is usually the largest cost in producing fat cattle. Buy carefully.

Buy the kind of cattle that fits your feed supply.

Sell cattle at times when prices for their grade usually are highest. Plan to sell Choice fat cattle in the fall, prior to December 1. Sell plain cattle of Commercial and low Good grades in March, April, and May. Heifers sell best in the spring months.



Corn silage, plus protein and minerals, gives cheapest winter gain.



Clean pasture saves 25% on feed costs; up to 4 more pigs per litter.

Farrow two litters per sow per year, and have sows farrow at different times. This reduces the overhead cost by keeping equipment in use longer. Provide legume pasture in late spring and summer, and small grain pasture for late fall and winter. Allow one-half acre for each sow and litter. Sell hogs on a graded basis.

Finish cattle only to the grade that will give the highest net return, which in many cases is no better than their feeder grade.

Corn silage, protein concentrate, and minerals will produce winter gains at less cost than any other ration. An acre of corn yielding 20 tons of silage, when supplemented with protein concentrate and mineral, has produced more than a ton of gain on stocker calves.

Choice grade fat yearlings, weighing 900 to 1000 pounds when finished, can be produced at lowest cost if (a) fed to gain $1\frac{1}{4}$ to $1\frac{1}{2}$ pounds in winter on high quality roughage and supplement, (b) grazed until July 1, and then (c) full fed on pasture. Sixty to 65 percent of the total gain can be made from roughage and pasture by this system.

Cattle on test have gained from $\frac{1}{4}$ to $\frac{1}{2}$ pound per head daily more on lespedeza than on any other pasture, thus lessening the amount of grain needed for finishing. However, pastures referred to as "improved pastures" often have twice the carrying capacity of lespedeza per acre.

Fat two-year-olds can be produced by the same plan as yearlings, except that grain feeding may be delayed until September or October 1, depending on finish attained on grass. Eighty to 85 percent of the total gain can be made from roughage and pasture on these cattle.

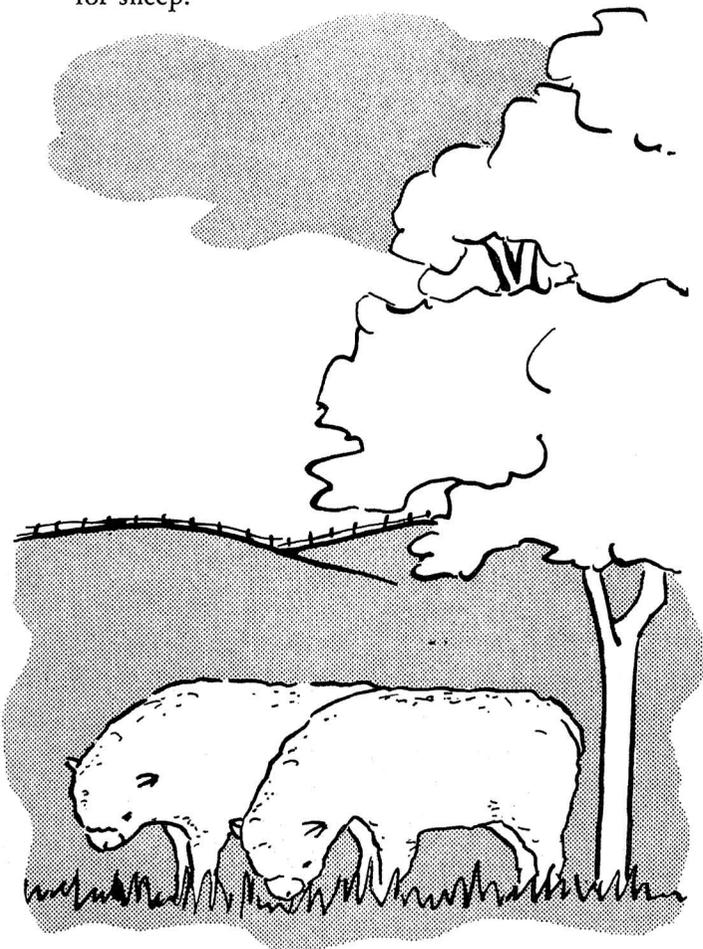
Feeder Calf Production

The methods needed for low cost production of feeder calves are: (a) early calving (January and February) by all cows; (b) improved quality through selection of good breeding stock; (c) disease control; (d) use of low-cost roughage instead of grain in winter to maintain the cow herd; and (e) a constant supply of quality pasture.

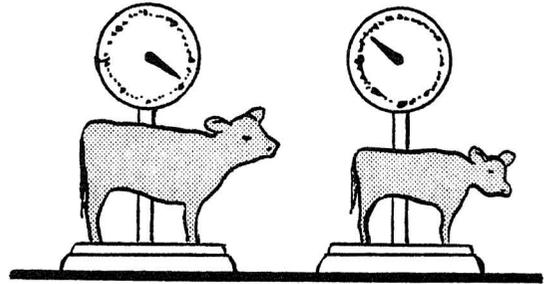
Early calves outweigh late calves by 120 to 150 pounds per head at sale time in the fall. A good bull may add \$2 to \$3 per hundredweight to the value of each calf.

The critical time for pastures is the three-month period beginning with July. Sudan grass and lespedeza are the most dependable crops for this period. If, for good reasons, calves are too young to be weaned in fall, consider carrying them over. Or, if feeder calf prices are low in relation to prospective fat cattle prices, consider finishing the calves.

Try to have all-year pasture for sheep.



Early calves outweigh late calves 120 to 150 lb. by sale time.



Sheep Production

Since sheep produce a more nearly finished product from roughage and forage than any other meat animal, provide them with an all-year pasture supply. Abundant bluegrass and fescue pastures, supplemented with minerals—and with legume hay when bad winter weather prevents grazing—have proven satisfactory for mature ewes during pregnancy. Immature ewes require additional feeds during gestation.

Feed concentrates to ewes nursing lambs born before March 1. Discontinue grain feeding when grass becomes abundant or after lambs are 12 weeks old, whichever occurs first.

Breed ewes for early lambs, preferably. Increase conception rate by shearing the ram 3 to 4 weeks prior to breeding and permitting him to be with the ewes for only an hour each morning.

Graze ewes on bluegrass, if possible; avoid ladino and white clover pastures during the breeding season as they reduce conception rate. Feed grain (shelled corn) in creeps to early lambs. Do not feed late lambs (April-May) until after the grazing season has been completed; then fatten in dry lot. Sell lambs when they weigh 90 to 100 pounds.

\$185 More per Milk Cow

Much Room to Improve

Dairymen can make much more profit from dairying than they are now.

In 1954, Missouri dairymen sold 4,434 million pounds of milk from 992,000 cows. The average cow produced 4,580 pounds of milk that sold for \$3.32 per hundred pounds, or for a total of \$152. Her estimated feed cost was \$2.58 per hundred pounds of milk, or a total of \$118. This left a return above feed costs of 74¢ per hundred pounds of milk or \$34 per cow.

Contrast this with the average cow in Missouri's D.H.I.A. herds. She produced 8,685 pounds of milk that sold for \$4.49 per hundred pounds, or a total of \$390. Her feed costs were \$1.97 per hundred pounds of milk, or a total of \$171. This left a return over feed costs of \$2.52 per hundredweight or a total of \$219 per cow. That is \$185 more per cow per year than the state average! (Most D.H.I.A. members produce Grade A milk. This accounts for the higher average price they received for their products.)

Here's How They Do It

Here are steps used by skilled dairymen to decrease the cost of producing milk:

Roughage Production, Feeding

Furnish a maximum of pasture needs. Use surplus pasture for silage.

Top dress pastures with fertilizer to increase their production.

Fertilize and reseed at least $\frac{1}{4}$ to $\frac{1}{2}$ acre per cow of grass and legume pasture each year to keep pastures productive.

Grow $\frac{1}{2}$ acre of sudan for each cow to provide supplemental pastures during the hot, dry summer months.

Be prepared to seed rye or barley by August 15. If moisture conditions permit, sow one acre for each cow.

Use rotation grazing plan and do not over-graze. Over-grazing will reduce the total pasture produced by as much as 40 percent.

Provide at least 3 tons of silage per cow. Ensilage surplus grasses. Put hay crops in the silo when weather is unfavorable for hay making. Plant sor-

Average D.H.I.A. cow

8685 LB.
at
\$4.49 cwt.



Average Missouri cow

4580 LB.
at
\$3.32 cwt.



ghum or corn for silage needs.

By September 1, make new seedings of one-fourth the acreage of alfalfa needed—to maintain uniform and adequate hay supplies.

Cut hay crops in the early bloom stage. Protein content is 15 to 20 percent greater than at full ripe stage.

Harvest and cure hays so as to prevent loss of leaf and color. Such losses can be up to 50 percent of the protein and carotene.

Store dried roughages in ways that prevent heating and molding.

Seed lespedeza, sweet clover, or other legume with small grain. This practice costs little and adds to the pasture supply.

Concentrates

Feed a grain mix suited to the roughage and according to production.

Use grain mixtures made up largely of farm grown grains such as corn, barley, and oats.

Provide good clean drinking water as nearly continuously as possible. Cows drink ten times in 24 hours if water is available. They produce 3 percent more milk with free access to water than when they drink only twice daily.

Breeding, Records

Keep milk production records on each cow and on the entire herd. Keep accurate breeding and freshening records.

Practice continuous rigid selection, based on these records. Cull all cows producing less than 300 pounds of butterfat or 7,000 pounds of milk as mature cows.

Strive for a minimum annual production per cow of 10,000 pounds of milk.

Strive for a 12-month calving interval. Either shorter or longer calving intervals result in material decreases in annual production.

Have most of the cows freshen in the fall months. Cows freshening at this time of year produce 12 percent more milk than when they freshen in the spring and produce more in months when prices are highest.

Breed heifers to freshen at 24 to 28 months of age. Earlier breeding reduces the size and production of the cow.

Give all cows a 6 to 8-week dry period. A 60-day dry period before freshening will give 23 percent more milk during the following lactation period than if the cow had no dry period before calving.

Reduce calf losses by proper feeding and providing clean, draft-free quarters. Calf losses can thus be reduced from the average 25 percent to 5 percent.

Use artificial breeding—especially in other than top breeding herds. With a 15-cow herd, artificial breeding fees are less than one-half the cost of keeping a bull—besides eliminating the first cost of the bull.

Save Labor

Make the utmost use of the machinery you have.

Purchase additional machinery if the use of it will cut labor costs enough to pay interest, depreciation, and operating expenses. Cooperate with neighbors in ownership and use of machinery.

Keep milking equipment in top condition. Follow a good milking routine.

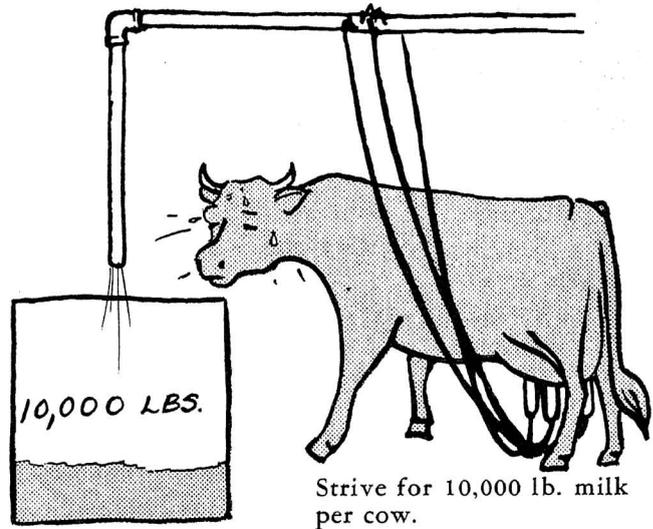
Reduce chore labor by self-feeding silage, storing grain overhead, feeding hay in V-type hay racks, piping water to livestock, careful arrangement of chore routes and other procedures.

Use Disease Controls

Test regularly each six months for tuberculosis and brucellosis. When disease is detected, follow recommended procedure to get it under control.

Adopt a brucellosis control plan. Use calthood vaccination.

Cull old and blemished cows.



Have regular semi-annual herd health checks by a veterinarian.

Check constantly for mastitis. Use a strip cup at each milking.

Provide ample, dry, draft-free barn and loafing space.

Control flies and other parasites.

Do not add animals to the herd until they have passed all health tests.

Adopt a strict sanitation program and follow it.

Market Quality Products

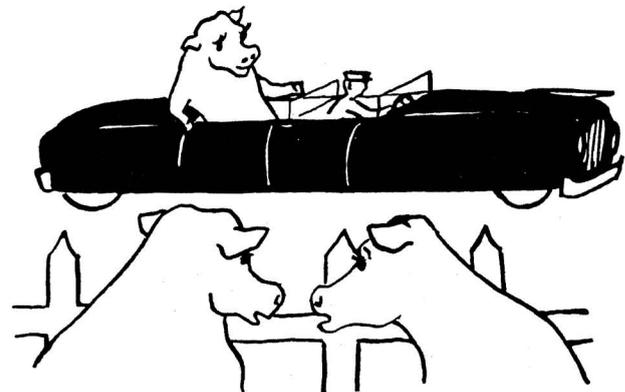
Convert Grade C units to Grade A where practical. Grade A premiums usually pay in two years for the new facilities required.

Carefully clean and sanitize all equipment before milking.

Do not use old, worn or rusty cans and equipment.

Cool milk to 35° F. immediately after milking.

Provide an adequate supply of clean, fresh water and proper waste disposal.



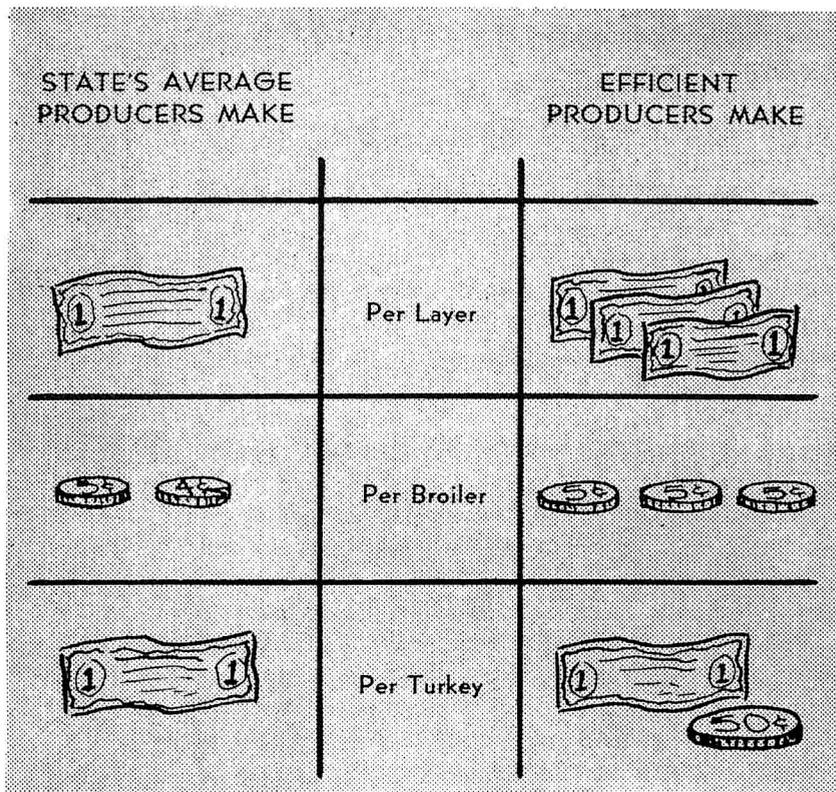
"She works for a Grade A dairyman."

6¢ to \$2 More per Bird

Missouri egg producers now make an average labor income of about \$1 per hen on 15 million layers, or a total of about \$15 million. Outstanding producers, by using good practices and keeping good sized flocks, are making \$2.50 to \$3 per hen. On only 8 million hens that would give \$20 to \$24 million.

Missouri broiler growers now make about 9¢ per head on 30 million broilers, or a total of \$2.7 million. By using good production practices, they can make 15¢ per bird above production costs, except labor. On only 20 million broilers that would be \$3 million.

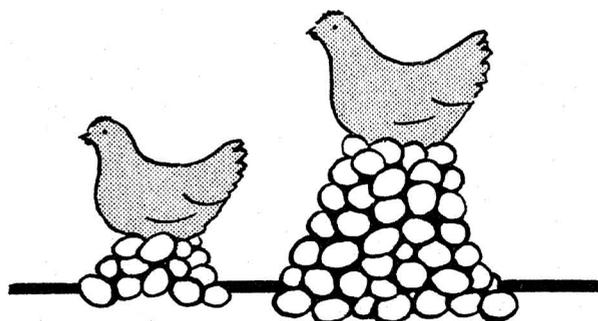
Missouri turkey growers average around \$1 per head for their labor and management on 2.5 million turkeys, or a total of about \$2.5 million. By using the best practices they could make \$1.50 per bird or \$3 million on 2 million birds.



How Top Poultrymen Boost Profit

Laying Flocks

The average Missouri poultryman gets about 180 eggs per hen, uses about 6 pounds of feed for



Average Hen
180 eggs

Good Hen
220 eggs

each dozen eggs, has a mortality rate of about 22 percent, sells very few high quality Grade A eggs, and has a return of about \$1 per hen above out-of-pocket costs.

The skilled poultrymen get 220 eggs per hen with 5 pounds of feed per dozen eggs, have a mortality rate of 12 percent or less, sell 80 percent of their eggs as Grade A, and get \$2.50 to \$3 per hen above out-of-pocket costs. Here are their methods of trimming costs:

1. Grow pullets for the laying house from tested strains, strain crosses, cross breeds and hybrids. They will lay 30-40 more eggs per hen per year than average hens, which will add \$1 per hen per year to net income.

2. Flocks consisting of the current year's pullets, and the best 50 to 60 percent of the yearling hens kept an additional 2 to 4 months in separate quarters, have given highest returns in tests. Such flocks have

returned \$2.63 per bird above feed costs, compared with \$2.15 for an all-pullet flock and \$1.52 for mixed flocks of pullets and yearling hens kept the entire year.

3. Put replacement chicks in the brooder house in February or early March, so the pullets will reach a high level of production in the season of high prices. Two eggs in the fall are worth as much as three in the spring.

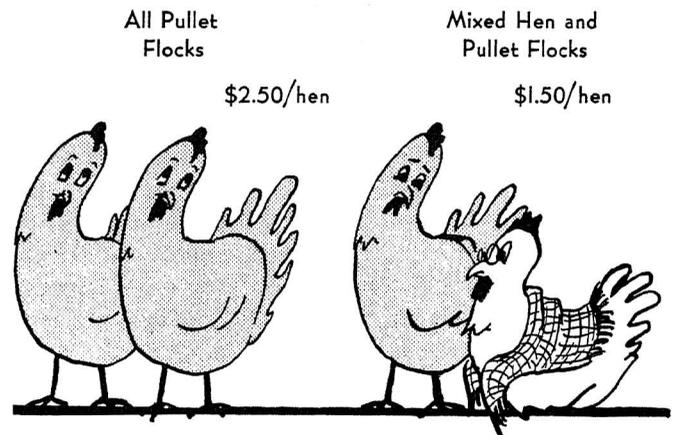
4. Labor efficiency can be increased by the use of feed rooms in the laying house, automatic watering systems, larger houses, dropping pits, built-up litter, and a house arrangement that reduces the labor required to care for the flock.

5. Low mortality rates —under 12 percent — can be attained by using U.S. Pullorum-Typhoid Clean chicks, vaccinating for Newcastle, bronchitis, and fowl pox; and debeaking.

6. Feed efficiency is related to rate of production. The most efficient ration usually is a well balanced one that makes as much use as possible of farm grains and has the proper supplements added. Reducing waste due to over-filling feeders and to rats and mice also helps. A saving of 1 pound of feed per dozen eggs is easy to attain and increases income 60¢ per bird per year.

7. Produce high quality, clean, sound-shell eggs. This is accomplished by frequent gathering and other good management practices. Dirty and broken eggs

HENS AND PULLETS DON'T MIX WELL



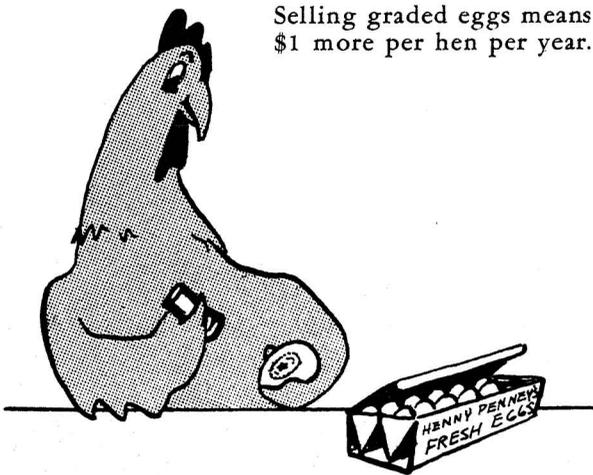
reduce returns to producers an average of 36¢ per hen per year.

8. Marketing on a graded basis or directly to consumers increases returns 5¢ or more per dozen or 80¢ to \$1 per hen per year.

9. Use artificial lights as needed to provide additional stimulus to production. Shifting heavy production to high price months in the fall increases income 30¢ per bird.

10. Capital investments should be kept as low as possible and yet obtain good labor efficiency and low depreciation rate. Investigate possibilities of multi-brooding replacement and confinement rearing. Reducing housing investments \$1 per bird reduces annual costs 10¢ per hen.

Selling graded eggs means \$1 more per hen per year.



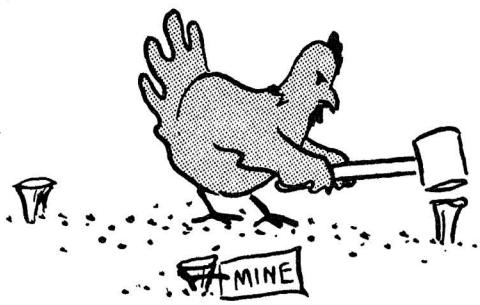
Broiler Production

The average Missouri producer, with a 23¢ broiler market, after paying all costs of chicks, feed, fuel, vaccination, interest and depreciation, gets about 9¢ per bird for his labor. By making some fairly easy adjustments for efficiency he could just as well get an additional 6¢ per bird, or \$1,200 more on a 20,000-bird operation.

Efficiency can be increased by the following methods.

1. Use a broiler strain or cross that has a white or Columbian color pattern. Crosses with some Cornish breeding on the male side usually grow faster, eat less feed per pound of gain, and grade

Don't crowd. Allow 0.8 to 1 square foot per broiler.

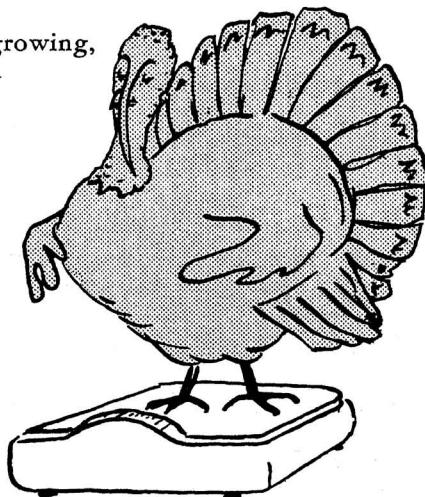


higher in the carcass than other breeds or strains. An extra gain of $\frac{1}{4}$ pound per bird on the same quantity of feed increases returns \$60 per 1000 broilers.

2. Keep mortality under 5 percent. Buy only U.S. Pullorum and Typhoid Clean broiler strain chicks. Vaccinate for Newcastle and bronchitis. Use a feed containing a coccidiostat. Medicate primarily for prevention. Have broilers of only one age on the farm. Debeak if necessary. A 1 percent decrease in mortality will increase net income \$10 per 1000 broilers.

3. Feed efficiency should average 2.75 to 2.9 pounds feed per pound of gain. Market at about 3 pounds weight for highest return. Feed good, broiler-type rations. Reduce feed wastage by not filling feeders over one-half full. Allow 2 to 3 inches of feeder space and 1 inch of water space per bird. Improving feed efficiency 0.1 pound lowers feed cost

Raise rapid-growing, broadbreasted strains.



\$15 per 1000 broilers when feed is \$5 per hundred-weight.

4. Improve labor efficiency by using automatic feeders and built-up litter.

5. Market at 9 weeks of age at 3 pounds average weight for best returns. Older birds have a lower feed efficiency that may decrease net returns by \$10 to \$20 per thousand broilers. Avoid broods to be marketed from November 20 to January 10. Competition from turkey and fowl ordinarily depresses prices during the holiday season.

6. Allow 0.8 to 1 square foot of floor space per bird to improve feed efficiency, market quality of birds, and lessen disease problems. Net returns have been \$50 per 1000 broilers more where 0.8 to 1 square foot was allowed than where only 0.6 square foot was available per bird.

7. Produce three or four broods per year to obtain full utilization of facilities. Allow 2 weeks between broods. Avoid starting broods in late September, October, and November because prices are usually low when they are marketed.

8. Keep complete cost records per brood, including those of daily feed consumption. Sudden declines in feed consumption warn of the possibility of disease.

9. Keep house as dry as possible and provide sufficient ventilation without draft. When artificial heat is used, cool-room brooding appears most profitable.

10. Keep birds confined, without roosts, during entire brooding period. Use dim lights, and screen openings in building with $\frac{1}{2}$ or 1-inch mesh wire. All-night lights during extreme hot periods appear to improve growth rate.

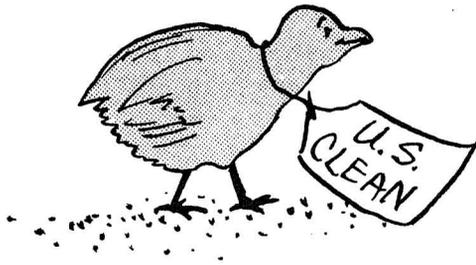
Turkey Pointers

Turkey growing is highly competitive. All producers pay about the same prices for poults, feed not grown on the farm, equipment, and other essential items, and the prices they receive for finished birds are about the same. Thus the individual producer's opportunity for more than average profits lies in being more efficient.

The following efficiency measures can give you \$1.50 profit per bird instead of the average \$1.

1. Raise rapid-growing strains of broadbreasted varieties of either large or small types. Net returns tend to be higher with the large type.

Buy U.S. Pullorum-Typhoid
Clean poults.



2. The size of the operation should fit the facilities—land, equipment and labor. Size of flock has a lot to do with efficiency and profit. A recent study showed returns of \$1.67 per hour of labor on flocks of 2000 or less, \$4.31 for those of 2000 to 5000, and \$5.09 for flocks above 5000. Flocks of 3000 to 5000 give good labor efficiency.

3. Keep mortality rates low. Buy U.S. Pullorum-Typhoid Clean poults. Get poults on feed and water within 24 hours after hatching. Follow a good sanitation program. Debeak and desnood. Medicate primarily for disease prevention. Early diagnosis and treatment of diseases are essentials.

Grow poults on clean range land that is used for turkeys not oftener than once in three years—and move birds, feeders, and equipment every one to two weeks. The effect of mortality rates on net returns is indicated by a recent study. The mortality rates and net returns per bird were: 5 percent mortality rate, net return of \$2.05 per bird; 10 percent, \$1.88; 14 percent, \$1.72; 27 percent, 68¢.

4. Achieve a pound of gain for 4 pounds of feed or less. Make the most use possible of planned pastures. Reduce wastage with properly constructed feeders and do not over-fill. Eliminate rats and mice.

Use of farm grown grains can reduce feed costs. The handler of purchased feed must charge more than the farm price to pay the cost of transporting, handling, and processing the product. A recent study showed that growers using rations containing more than 50 percent of home-grown grains had a net return per bird of \$1.92, while those using less than 50 percent of such grains had only \$1.62 net return.

5. Start the main brood in April or May for the holiday market. Consider the possibilities of off-season utilization of facilities in producing turkey broilers and roasters.

6. Plan marketing well in advance of actual

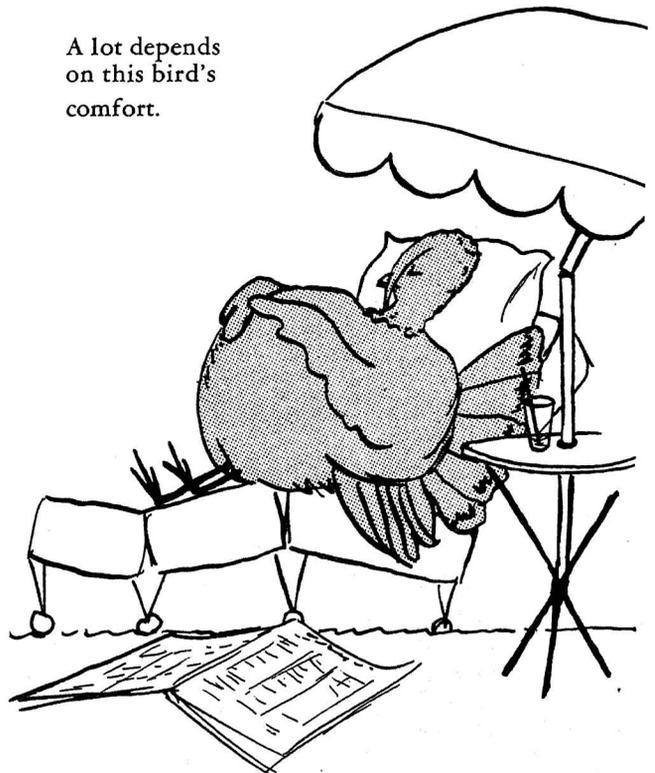
disposal. Plan to sell heavy type hens at 22 to 24 weeks of age and heavy type toms at 2 weeks older. Small whites must be marketed 2 weeks younger to attain good feed efficiency. Market both types as early as they attain proper feathering and finish.

7. Accurate records of poults, feed, and labor costs, and daily records on feed consumption and mortality, will help reveal weak points in the production program and help you recognize problems as they develop.

8. Provide 1 square foot of brooder house space per poult for those up to 8 weeks of age, 1½ square feet for those from 8 to 12 weeks old, and 4 or 5 square feet for those from 12 weeks to maturity—if raised in confinement. Provide 2 inches of feeder space per poult up to 8 weeks of age and 4 inches thereafter. Provide one automatic or float type waterer for each 150 birds. Arrange for shade, either natural or artificial, on the ranges. Raise turkeys apart from chickens, sheep, and hogs and keep different age groups separate.

9. Control varmints that would kill or panic the birds. Low roosts, loose fencing, trained dogs, lanterns all night, radio, and early morning attention are important.

A lot depends
on this bird's
comfort.



5 to 7% More Through Insect Control

Missouri farmers could make some \$13 million more annually by reducing acreages 5 percent and controlling outbreaks of insects on the other 95 percent.

It has been estimated that losses due to insects average 15 percent for field crops and somewhat greater for other crops. Approximately half of these losses can be prevented by good insect control.

The value of Missouri's livestock and livestock products is more than one and one-half times that of her crop production. Insect damage to livestock is estimated to be at least 5 to 6 percent, and damage from other internal parasites at about that much more. Losses to livestock from these pests is probably around \$80 million annually. Thus, Missouri farmers could reduce the livestock numbers by 5 percent and, by controlling insects and internal parasites, make at least as much money as they now make.

General Suggestions on Control

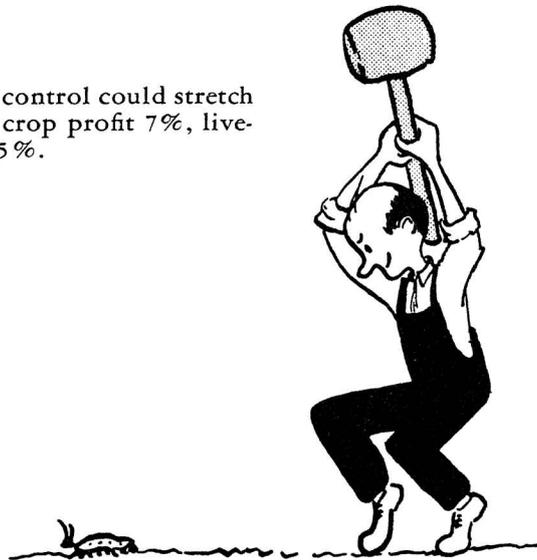
The methods of controlling different insects are too numerous for detailed discussion here. There are more than a million known kinds of insects. However, only about a thousand are destructive, and less than a dozen are important on any one farm. Control measures vary with the type of insect, the conditions under which the treatment is applied, and the material used.

A few general recommendations follow. (Detailed directions can be obtained from your County

Familiarize yourself with the common pests.



Insect control could stretch state's crop profit 7%, livestock 5%.



Agricultural Agent or by writing to: The Mailing Room, 21 Mumford Hall, University of Missouri, Columbia.)

1. Familiarize yourself with the insects that are likely to trouble your kinds of crops and livestock.
2. Learn to recognize those insects and the damage they do.
3. Know when the different insects are to be expected.
4. Know the proper materials and methods used in controlling the different insects important to your farm.
5. Make arrangements to have the required insecticides, equipment and services available when needed. In some cases it will be more practical to hire a custom operator.
6. Recognize that timeliness of control is highly important. To get timely control, besides knowing when a particular insect can be expected in the average year, you need to keep up on the insect surveys made by the College of Agriculture. This lets you know whether to expect the insects earlier or later than average and whether to expect more or fewer of them. Check crops for the first appearance of insects in significant numbers. Also time treatments so as to minimize the harm to beneficial insects.

Farm Price Problems

Throughout the history of the United States, farmers have produced wheat, cotton, tobacco, lard and many other products in excess of the needs of our people. Prior to 1929, the surplus was sold to other countries. Following World War I, prices of agricultural commodities went down much more rapidly than did the cost of goods and services farmers buy. The result was a cost-price squeeze of national concern. Price support legislation followed.

The procedures that have been adopted to maintain farm prices have made it impossible to sell in

foreign markets the farm commodities that are produced in excess of domestic needs. The situation in 1956 is characterized by high production, large surpluses, low prices of the products farmers sell in relation to the cost of goods and services they must buy, and low net farm income. The parity ratio for 1955 was 84, the lowest since 1940. The cash cost of operating farms increased from one-half of the cash farm income in 1936 to two-thirds of cash receipts in 1955. Net farm income in 1955 was 38 percent below that of 1947, and the lowest since 1942.

What's to Be Done?

The solution of these problems can be found (1) in national and international policies to open world

markets, (2) possibly in some reduction of total production and (3) in adjustments in farm businesses that will reduce production costs and increase net returns to the farm family.



markets, (2) possibly in some reduction of total pro-



Considering phase 1 of the solution, there are distinct possibilities of increasing foreign sales of our farm surpluses. We can sell our products for the currencies of foreign buyers, and exchange these currencies for products we need that are for sale in foreign countries. We can simplify import regulations and procedures so that foreign sellers in our markets can estimate more easily and certainly the import duties and costs. We can make price concessions to foreign buyers. We can accept more imports in exchange for exports because, obviously, foreign countries cannot buy from us unless they sell to us. Trade is, and must be, a two way street.

Trade progress must be piecemeal, worked out commodity by commodity and nation by nation — so that all parties to the agreement profit by it. These possibilities are being explored continuously and efforts to increase exports by these means should be increased. Such efforts deserve the support of farmers through their organizations and congressmen and other means.

Quantity Dilemma

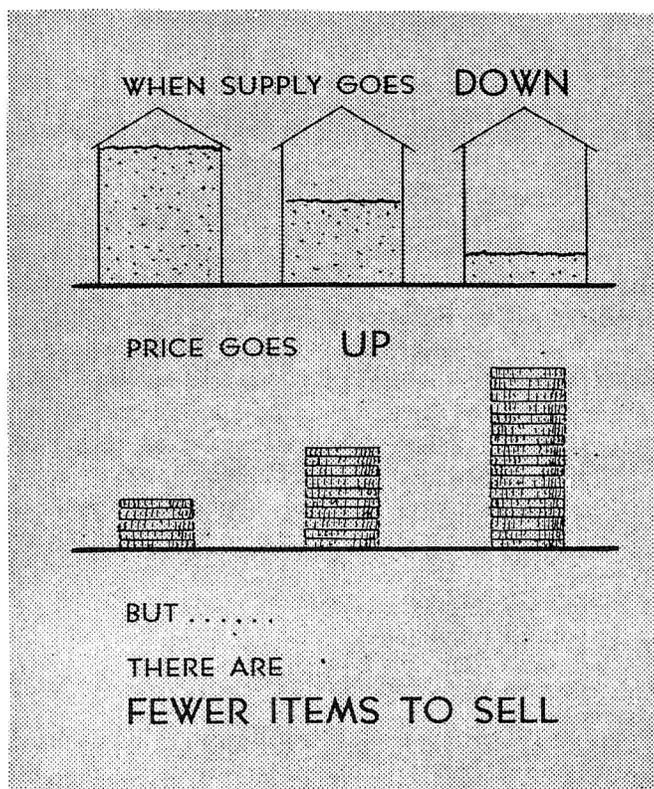
Turning to phase 2, there are possibilities on many farms of reducing total production and at the same time increasing net profits. This can be done by reducing costs per unit through higher production per acre and animal on fewer acres and animals; or by producing fewer units but of higher quality; or by marketing when seasonal prices are highest. However, the different enterprises of the farm are inter-related so the effect of the change in one enterprise on your total farm operation should be considered before the change is made.

Experience has shown that a large national crop often sells for less total money than a smaller crop. That is, a 6 percent reduction in nation-wide production ordinarily results in price increases of about 10 percent. Conversely, a 6 percent increase in production ordinarily results in a decrease of about 10 percent in price. It appears that the way to increase net farm income is to turn out less product and, at the same time, reduce the cost of producing each unit.

The most obvious criticism of producing less is that it reduces the volume of sales of the individual farm, which in most instances is too small now for best efficiency in the use of labor and equipment. As a rule, a large farm business that is efficiently managed is more profitable than a small one. But small production, with a lower unit (per bu., lb., or doz.) cost, can be much more profitable than a large production with a high unit cost.

One Thing All Can Do

Phase 3 of the solution is something over which each farmer has control on his farm. The cost per bushel or pound of product he produces depends on his management.



It is the task of the individual farmer to decide what he will produce and how much. But he is not likely to succeed financially if he does not give careful attention to costs in relation to returns.

A considerable part of the grain, milk, eggs, pork, beef, and other products are produced at high cost. This fact is one of the principal reasons for unsatisfactory returns to farm families. Increase in output usually is suggested as the remedy. Equally important is keeping cost down on the production of the present or a lower output.

The 1955 Census shows that Missouri has 201,614 farms. Approximately one-half of these farm businesses are too small for full employment of the family labor force when working with modern equipment. The solution of the low income problem on these farms lies in proper organization of the business. Production costs are low on many farms. What is now being accomplished on these farms can be accomplished on most of the other 200,000.

This bulletin outlines some things that can be done to improve efficiency in the use of land, labor and capital, to lower unit costs and to increase net returns.

OTHER HELPFUL PUBLICATIONS

The University of Missouri College of Agriculture publishes many bulletins on management of farm enterprises and profitable methods of producing and marketing farm products. The recommendations are designed to give the most efficient production possible, based on the knowledge agricultural scientists have collected to date. It pays to keep up with these recommendations and new ones as they are discovered.

Here are some of the publications that might help you "Cut Costs to Increase Profit." These and many others on agricultural subjects can be obtained from your *County Agricultural Extension Office* or from the *Mailing Room, 21 Mumford Hall, University of Missouri, Columbia*. With the exception of the two indicated, there is no charge for single copies.

Crops and Soils

- B583—Soil Fertility and Corn Production
- B637—0-205 Oats, An Improved "Columbia-Type" Variety for Missouri.
- B644—Growing Good Crops of Oats in Missouri
- B657—Soil Fertility and Small Grain Production
- B677—Missouri Hybrid Corn Yield Trials.
- E597—Winter Vetch in Southeast Missouri
- E609 —Popcorn Production in Missouri
- E618—An All-Year Pasture System for Missouri
- E619—Weed Control in Corn Through Use of Chemicals
- E651—Lime Your Soils for Better Crops
- E654—Cotton Varieties in Missouri
- E655—How to take a Soil Sample
- E659—Sudan Grass in Missouri
- E655 —Grass Silage
- Folder 9—Livestock Pasture Farming
- Folder 24—Here's Help for You on Grain Storage
- Folder 33 —Restoring Drought Pastures
- Folder 37 —Recommended Crop Varieties for Missouri (a new edition published each year)
- Fertilizing Cotton in Southeast Missouri

Livestock

- B587—Pork Production in Missouri
- B610—Feeding Livestock
- B618—Improving Livestock Through Breeding
- B627—Fattening 2-Year Old Steers
- B628—Winter Rations for Feeder Calves
- B641—Corn Substitutes for Fattening Cattle

- B646 —Fattening Comparisons; Steers vs. Heifers
- B647—Vitamins in Human and Animal Nutrition
- E321—Various Grains and Other Corn Substitutes as Hog Feed
- E407—Loading Livestock
- Folder 13—Controlling External Pests of Livestock
- Folder 19—Concrete Barnyard Pavement and Feeding Floors

Dairy

- B559 —Buildings for the Dairy Enterprise
- E606 —Specifications for the Combination Milking Barn and Milk House
- E632—The Ring Test for Brucellosis
- Folder 31—Dairymen, Let's Study the Records
- Folder 36 —Housing for Calves
- Plan Folder —Milk House and Milking Barn

Poultry

- B659 —Treating Shell Eggs to Maintain Quality
- B665—Missouri Broiler Test (1955)
- E516—Culling for Egg Production
- E531—Homemade Poultry Equipment
- E532—Poultry House Remodeling
- E545—Automatic Poultry Waterer
- E549 —Missouri Multi-Unit Poultry Houses
- E585 —Producing Better Hatching Eggs
- E623—Growing Broilers
- E625—Raising Turkeys
- E637 —Feeding Chicks and Pullets for Flock Replacement
- E638 —Broiler Rations
- E652—Feeding Laying Hens
- E666—Poultry Disposal Pit
- Folder 8—Know Your Eggs
- Folder 21—How to Cut Turkey by the Piece

Insect Control and Miscellaneous

- Insect Control Recommendations for Missouri (available at cost)
- Balanced Farming Handbook (available at cost)
- B624—Father and Son Agreements
- B660—A Study of Problems of Small Farms
- B666 —What To Do About Farm Surpluses (addresses given at 7th Annual Farm Forum)
- E537—Balanced Farming in Missouri
- E582—Safeguards in Buying a Farm and Paying for It
- RP17 —Family Farm-Operating Agreements

ABOUT THE BULLETIN

Many skilled Missouri farmers are getting much more income per bushel of grain, per pound of meat, per dairy cow, or per dozen eggs than the state's average producers. Turn to the page listed to see how they make—

	Page
8 cents to 26 cents More per Bushel from Crops . .	3
20 percent More on Meat Animals	7
\$185 More per Milk Cow	10
Up to \$2 More per Bird	12
5 to 7 percent More Through Insect Control . .	16

A short discussion of farm price problems appears on pages 17 and 18.