Quart-Measure Feeding Formulas--By David L. Stillman

An Easy Way to Mix Scientific Poultry Rations

Few keepers of small flocks make any attempt at scientific feeding; not one in a dozen keeps dry mash before his hens. A few don't know there is such a thing as scientific feeding, but most of them think they haven't got time to attempt it. And it does look like quite a job to follow the directions when one reads: "An excellent dry mash is made by mixing together so many more or less pounds or half a dozen other grains and feed products; should be fed in a dry-mash hopper." At this point the book or paper is thrown out of the window or tucked on the shelf in disgust. The would-be scientific feeder hasn't any scales for weighing grain, hasn't a ghost of an idea what a dry-mash hopper is, never heard before of two of the feeds listed to go into the dry mash; so why should he read further? And he continues feeding corn, or corn and oats, as of yore.

The thing that confuses the keeper of a small flock most is that proportions are always expressed in pounds. He goes by measures. He has a two-quart measure, a four-quart measure and perhaps a peck measure; but he has no adequate scales. For this reason I have reduced weight to volume in the formulas that follow.

I have fed my hens very simple formulas and very elaborate ones, with equally good results. But the only case I can think of where either beef scrap, fish meal, or milk of some kind could be left out with success is where in warm weather the hens have a large range on which to catch bugs and worms to their heart's content; and even these must be fed some meat food in winter. Grains lack a substance that the animal food supplies.

Here is the simplest feeding system I would dare recommend:

GRAIN.

Cracked Corn

DRY-MASH FORMULA

1 Peck Meat Bran — 1 Teaspoonful of Salt

¾ Quart Wheat Scrap — Mix thoroughly

The dry mash must be fed in a container of some kind where the hens may have access to it at all times. A commercial hopper may be bought at the store, or one can be made at home by nailing a cleat across the top of a wooden box of the right size, closing the centre and leaving a space on each side wide enough to put the feed in and to allow the birds to put their heads in and eat, but not wide enough for them to get in and scratch the feed out—about three inches is right. Feed the corn in the litter at night and in the morning, giving about twice as much at night as in the morning.

BARLEY INSTEAD OF WHEAT.

It is generally conceded that hens should be fed about equal quantities by weight of grain and mash. But since cracked corn is at least twice as heavy as the mash formula given above, the flock should be limited to four quarts of cracked corn to every peck of dry mash consumed. The flock should have grit, shell and fresh water before them all the time.

The way I am feeding my hens now is very similar to the New Jersey Contest method, except that in the whole-grain mixture I use barley instead of wheat, as I can seldom get wheat; and when I do get it, it is low grade and high priced. I find that hens will eat barley in the hulls, without trouble, but do not like it when the hulls are removed, as in the so-called pearl barley. Here are the formulas:

GRAIN.

1 Peck Cracked Corn — 1 Peck Oats — 1 Peck Barley

DRY-MASH FORMULA

4 Quarts Bran, 2 Quarts Meal or Chops
3 Quarts Middlings, 1½ Quarts Scrap
3 Quarts Ground Oats, 1 Tablespoonful Salt

This grain mixture will weigh about a pound and a half to the quart, while the mash will weigh a pound; and since one is two-thirds of one and a half, it will be seen that on an equal-weight basis two quarts of grain mixture should be fed for every three of dry mash consumed.

I have given just two systems—one simple, the other containing a larger variety—but the number that could be computed is almost infinite. In making dry mash one can use various ground feeds, but he should not use too much of fiber feeds, such as alfalfa meal and ground oats; also he should estimate his volumes so that by weight the animal food will equal 15 to 20 per cent. of the whole. Care must be taken that the salt used is fine and not in lumps.

As stated above, the dry mash should be kept before the hens continually, and where an equal balance of mash and grain is desired to be fed, a bulk of cracked corn one-half as great as the bulk of mash consumed should be allowed the birds, in the first system; and two-thirds as much grain as mash in the second.

But it would be a tedious process to compute the number of quarts of grain to be fed a day in either case, and quite unnecessary, for it would make little difference which the birds consume the most of—mash or grain—provided the balance is somewhere near equal.

PLENTY OF GREENS.

Furthermore, the condition of the birds might make some difference in the relative amounts of mash and grain they would require. The season is also and the limit or range allowed might make a difference to the grain and the mash ratio. Obviously, a flock given free range in summer, to pick up seeds, chase bugs, scratch for worms and sample every green herb they come across would require less bought feed than hens confined in yards with only a limited quantity of green stuff each day.

I would recommend, therefore, the same volume of grain for hens on range as for hens in yards, leaving them in either case to supply their further needs on the mash before them, without any worry for fear they might go hungry; for if they can't get the food they like best they will put up with some they don't like quite so well.

I find that a flock of fifty-one or two Rhode Island Reds, confined to yards and laying about fifty per cent., and fed a liberal quantity of green feed each day, have required about five quarts of grain a day to balance up their dry mash—in the second feeding system. The same could be used for all American breeds. The Asiatics, being larger, would require a little more; the Mediterraneans, being smaller, would call for a little less. If clear cracked corn is fed—as in the first formulas, a little less in volume could be given, as it is a trifle heavier than the mixture. But for practical purposes I would say use the same bulk as of the mixture; five quarts a day to every fifty average-sized hens.

In summer the feedings may well be made an hour after sunrise and an hour before sunset; but in winter the morning feeding should come as soon as the birds are off their roosts and wide awake, and the night feeding shortly before sunset.

Below is laid out an exact feeding guide for a flock of fifty hens; the reader is urged not to try to follow it too exactly, however, but to vary it as local conditions and observations may demand. Here it is:

1. Keep a supply of dry mash before the hens at all times.
2. Be sure they have a liberal supply of green succulent food each day.
3. Keep grit, shell and charcoal before the hens always.
4. Scatter the grain before them morning and night, using the following table as a guide:

Type of Fowl	Quarts of Grain Morn.	Night
American	2	3
Asiatic 6	2½	3½
Mediterranean	1½	2½

"The Melancholy Days Are Here The Saddest of All the Year"

Winter Calf Rearing

To many winter seems an off season in which to raise calves, but nevertheless it is a fact that most successful calf raisers find it to be the best season. In the first place the farmer has more time to give the proper attention to the details so important in calf feeding; secondly, there is usually a greater supply of skim-milk owing to the smaller number of pigs raised in the winter than in summer; lastly, the calf has not got the summer heat and flies to contend with, and is just at a nice age to turn to pasture the following spring.

When the calf is dropped it should be allowed to remain with its dam until she has licked it clean and dry or else be removed to a separate stall and rubbed dry with wisps of straw or a piece of bagging. If at all possible, the winter-raised calf should have the brightest, driest and sunniest place in the stable for its winter quarters, and they should be kept clean at all times, for comfortable quarters mean almost as much as good feeding. The calf should receive within twelve hours a feed of the colostrum, or first milk, from its dam. It is important the calf gets a feed of this milk, as it has a beneficial effect on the bowels, and ensures the calf getting the proper start. For the first few days the cow should be milked and the calf fed three times daily, the milk being fed while still at blood heat. Eight to ten pounds per day should be sufficient for the average calf. Feed the calf whole milk for the first two to four weeks, depending on its strength, a weak or puny calf being carried on whole milk for the longest period. Gradually change from whole milk to skim milk, making the period in which the change is made extend over about ten days, as abrupt changes are apt to bring on digestive troubles. At this time the calf should be consuming about twelve pounds of skim-milk daily in two feeds. As the change is made from whole to skim-milk the fat removed from the milk should be replaced by adding a tablespoonful of finely-ground scalded flaxseed jelly. The proportion of the flaxseed jelly and skim-milk can be increased gradually, and at about three months of age add to the flaxseed jelly other constituents to make a calf meal composed of round flax, 1 part, fine ground oats 2 parts, and ground corn 2 parts,—this mixture to be fed in the milk, similarly to the flaxseed jelly, at the rate of ⅛ pound per day at the start gradually increasing to one pound per day at four to five months. At this time the skim-milk ration may be cut off and the dry grain ration mentioned below increased proportionately.

It is well to start the calf eating a little dry and bulky food as early as possible. With this end in view a small quantity of fine clover hay and whole oats should be kept before the calf after it is a month old. As the calf grows older the whole oats may be replaced by a mixture of bran, rolled oats, and ground corn. This mixture should be fed at noon at the rate of ⅛ pound per day at start up to 1½ pounds per day at time of reducing skim-milk and calf meal mixture at which time the dry grain mixture may well be increased to 3 pounds per day and be fed in two feeds, morning and evening. Roots are a valuable feed for growing calves and may be introduced into the ration in small quantities when the calves are from two to three months of age. Silage should not be fed to very young calves and as it usually gets strong towards the latter part of the winter, only very small quantities should be fed if used at all. Feed salt in limited quantities regularly. Provide fresh water but do not let the calves gorge themselves with it.

Strict attention should be paid to the cleanliness of the utensils and mangers in which the calves are fed as well as to the box stalls in which they are quartered. The latter should be cleaned out at least once a week and preferably oftener.

The above ration may seem heavy and the feeding of it a matter of some detail, but it is attention to these points that ensures well grown calves capable of developing into profitable matured animals.—G. B. Rothwell, Dominion Animal Husbandman.

Storing the Vegetable Crop

(Experimental Farms Note.)

The vegetable crop has been an abundant one in most places in Canada this year, and many persons will have a large quantity to store. It is important that care be taken in storing so that losses will be reduced to a minimum.

Potatoes should be dry when stored and where possible put where the temperature will not go above 40 degrees F. or below 32 degrees. In order that the surface of the potatoes can be kept dry and in the best condition to avoid rotting, provision should be made for air to pass underneath and through them. If they are stored in considerable or large quantities such provision is made by keeping the potatoes about six inches off the floor by first putting down a slatted temporary floor with the boards just close enough so the potatoes will not fall through, and a similar slatted temporary wall a few inches from the permanent wall would permit a still freer circulation of air. Keeping them in crate-like boxes with openings between the boards on tops and sides is a good method.

Beets, parsnips, carrots, salsify and turnips keep best under conditions somewhat similar to potatoes, though it is not so important to keep them dry. Indeed in the average cellar they are liable to become too dry and lose their firmness. If there is danger of this they may be kept in boxes and covered with a sack kept wet. In a warm cellar they will grow.

Onions are very liable to rot unless kept in a dry place. Keep them spread out as thinly as possible. Where quantities are small, an attic room where there is no frost will be found a good place to store them.

Cabbage will soon wilt in a warm, dry cellar. Keep them outside as long as possible by protecting them with leaves, straw, or soil. If they begin to crack before it is time to pull them, loosen them in the ground by twisting the plant and thus checking growth. When stored where the air is very dry they keep better with the roots and stems left on, and wrapping each head in a newspaper will prevent wilting to some extent.

Celery is left outside until danger of severe frosts. To keep well in storage it needs a moderately dry, well ventilated cool cellar for best results. The celery should be planted in the cellar in rows close together in sand or light soil, separating each row with a lath or other pieces of wood to keep the tops somewhat apart and better to ensure a circulation of air. The soil should be kept moist but the tops dry. Avoid wetting the leaves and stalks if watering is necessary.

To store green tomatoes to ripen them put in closed boxes or drawers where they will be in the dark and in a moderately warm place.—W. T. Macoun, Dominion Horticulturist.

NO LAUGHING MATTER

"I admire the man who laughs at danger, don't you?"

"No, I think he has a mighty poor sense of humor."—Boston Transcript.

OTHER TIMES

"I can remember when a dollar would fill a market basket."

"Yes. But you can also remember when a man had to work as much as a couple of hours for the dollar."—Washington Star.

It is equally true that a man is known by the company he keeps away from.

HE FIGHTS TO PUSH BIG BASEBALL PROBE

H.L. Repogle

Hartley L. Repogle, states attorney, who is hot on the trail of the traitors to clean American baseball. He is one of the leading figures who have led in the recent investigation which has unearthed the greatest baseball scandal in history.

The Magic Carpet

Visits to New Worlds.

COURLAND.

Courland, or Kourland, which came into world prominence with the activities of Von der Goltz in that area, is one of the three Baltic States. To-day it seems destined to be absorbed in its neighbors, but its old boundaries were the Baltic Sea and the Gulf of Riga on the north, the Baltic also on the west, Prussia on the south, and the Dvina on the east. From the linguistic point of view the southeast section of Courland presents a curious problem. The north is entirely Lett, the southwest entirely Lithuanian, and the east entirely White Russian. Courland has an area of 10,535 square miles. The surface is for the most part undulating, rising now here beyond a level of 700 feet. The Mitau plain divides it into two halves, of which the western is the more fertile and the more prosperous. The larger part of Courland is covered with sand and the rest with clay soil. There are many rivers, the most noted of which are the Windau, the Aa and the Dvina, all three of which are navigable. The climate is temperate, and the seasonal changes are gradual. The original inhabitants, or Kurs, are an admixture of Livs and Letts, the language being Lett. There are many Russians and Germans within the area. Indeed until quite recently the ruling class was German. The mortality of Courland was said before the war to be less than anywhere else in Russia. Although between 1200 and 1795 their political allegiance was by no means uniform yet until the third partition of Poland when Courland was transferred to Russia they kept their racial characteristics strongly marked. The Letts, who inhabit Courland are Indo-Europeans, while the Esthonians are Finns, so that there is a strong line of cleavage between the two races. The literature of the Letts is one of the oldest in Europe and within the last two decades there has been a strong reaction against the Germans. Libau, in old Courland, is one of the most considerable of all the Baltic ports and in addition to farming there are some valuable forests in Courland.

Eggs in Water Glass Beat the Middleman

By Ruth Dunbar

When, before the war, Christmas eggs reached the price of sixty cents a dozen, town housekeepers discussed the matter excitedly in their clubs, while the farmer's wife put cornstarch in her squash pies and anxiously watched for the maternal bloom in Biddy's comb. During the late unlamented winter a familiar sign in the markets read, "Eggs, $1.15 per dozen." Did we have hysterics? Not at all. Our emotions had been so long lacerated by the High Cost of Living that we could feel no more.

Moreover, in the back of our minds as we read that egg sign nestled words of hope—water glass. That is the magic wand which, waved over eggs when they are plentiful and cheap, puts them into a deep sleep whence they may be awakened in all their youthful freshness to enrich the winter table.

The egg of the domestic fowl consists of a germ cell embedded in a soft yellow globule or yolk, which floats in an opaque watery substance, the white, both covered by a tough membrance and all inclosed in a thin shell, a tiny air space remaining outside the membrance. An invisible outer coating fills the pores of the shell.

But while in appearance when fresh there is no difference, this egg will never become a chicken unless two or three weeks prior to being laid its germ cell has been fertilized by the male bird. Twenty-four hours in a temperature of 103 degrees Fahrenheit telsl the secret. At the end of that time the yolk of the infertile egg will be practically the same, but in the yolk of the fertile egg will be seen a light spot. It is the germ beginning to hatch. Twelve hours more of the same temperature shows a blood ring in the yolk, and the egg is no longer godo for food. Six days later the fertile egg reveals the semblance of a chicken, while the infertile egg is still fit to eat. If the latter is kept cool it will be an edible egg for a much longer time.

It is estimated that ignorance of this fact—that infertile eggs keep better than fertile—costs our farmers $15,000,000 a year. And this frightful loss is due to that hitherto respected bird, the rooster. We thought he was essential to the production of eggs. Now we know that the hen will lay just as many if separated from her lord and master, and the slogan is, "Banish the rooster." If you wish to hatch eggs, let him run with the hens during the hatching season. But the stern order is: "Sell, kill or confine all male birds as soon as the hatching season is over."

Two things cause spoilage of eggs: Heat, and germs entering through the porous shell. Whether or not women understood these principles, they acted upon them. They put their eggs in as cool a place as they could procide, and they sought to close the pores with all kinds of materials. They used salt, bran, oats, butter, lard, melted paraffin, vaseline, shellac, varnish, wax and soap. Sometimes the eggs kept finely for a while. The next time they used the same preserver the eggs spoiled.

If housekeepers had known the importance of having their eggs in the right condition to start with they might not have failed so often with their simple means.

THE BRAIN BOX

Conducted by E. Gunn Ramsay

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Are you one of the successful people?

Success! What an alluring, glittering word!

Who that does not wish to be successful—not only to be thought successful, but to be successful.

This word Success takes on many different shades of meaning.

When you were a boy, do you remember how you thought the man who trimmed your unruly locks, must be most successful, because of the fat cigar he smoked, and the glitter of his diamond ring?

Your boyish mind then measured success by monetary values. It took no appreciation of the mental realm.

By the same token, therefore, the much harassed little doctor whom everyone clamored for, but whose ability to collect his bad debts was nil—was a failure. He appeared shabby and meagre by comparison with the apparent prosperity of your tonsorial friend.

Cou promptly resolved which type of man you would emulate.

Youthful aspirations in those far off days took no reckoning of the measure of a spiritual achievement.

Material comforts, exterior show, were the thing, and those who had these were to be envied and followed. Thus in the days of youth.

How far have you travelled since then? How do you measure success to-day? Because you have not amassed the fortune that Jones has, or got into the same circle as Smith, do you have a feeling that your life is not entirely successful, that somehow you have failed.

What then is Success?

Is it a pile of masonry, a hoard of gold, a glitter of pomp and show?

Success lie deeper.

The only man who is entitled to claim it as his own is he who has striven to fulfil, and who has worked out some part of that for which he came into the world.

If you have made some place the better for your coming—whether it be a building, an organization, your home, your business—if you have added to the sum of happiness in the world, even in the smallest way—if you have added to the sum of good efforts, efforts upon the side of justice and right—if you have improved your output or production, so that others may enjoy the more—worked that others may have more freedom—this is success.

Success often is intangible to the unthinking world. Do not measure your achievements yb the popular rule. No dead inanimate thing can express it truly. It must pulse and beat into other lives.

Have you influenced for the upward stroke? Will anything you have done or said live and help in the lives of others?

There lies the road to Success.

THE ORIOLE'S NEST.

Study a completely finished oriole's nest. What a mass of tangled filaments, string, grasses, fibres: I have often wondered which was the first string that was put on, how was it put on and what came next in the order of building.

Most of us have seen the beginning of simpler nests, such as that of the robin or the English sparrow. One need stand only for a few minutes at any railway station, or at any place in the city where English sparrows have congregated, to see the little fellows busily carrying bits of hay or straw. It is no great puzzle to learn how an English sparrow builds its nest. It finds the material and packs it in "in almost any old way."

It is not difficult to understand how a robin builds its nest. Frequently one may see the whole process from the laying down of the first material until the structure is completed. With an oriole the situation is different. The nest excites our curiosity more than that of almost any other bird. In it is an element that should especially appeal to the boy scout, particularly to one who is interested in tying knots and in the manipulation of cords of various kinds. I fancy that even the most skilful scout would not get along well in knot tying if he could use only the thumb and one finger of one hand, but even these would be better for intricate work with strings than a bird's bill. The only way to discover the secret is to watch the bird with a good field glass, and to keep pretty reasonably on the watch for the oriole's actions from the time of its first arrival. Yet if you do not see the very beginning of the nest it will be worth while to note its progress after it has been started.

FOUR YEARS A HUBBY

Posing as a man to evade perils of the slums, Jacqueline Gay, an Indian girl, married her girl pal and worked in a mission for four years. Her identity was learned through a suit filed against a man she alleges sold her drugs while nursing girls of the slums.

Saloniki.

The city of Saloniki had in normal times a population of about 160,000 to 170,000. This has been increased to about 400,000 through the influx of refugees from Serbia, European Turkey, Bulgaria and that part of Greek Macedonia until recently in the hands of Bulgaria. During the last few years the character of the population has been steadily changing. The Greek element has more than doubled, and at this time stands first in numbers. Turks, formerly the most numerous class, are now third in rank and are steadily decreasing. The Jewish population stands in second place and is the most important commercially. A mixture of Bulgars, Serbs and Roumanians and Russians make up the remainder of one of th emost heterogeneous populations in the world.

A MAN OF ABILITY

Tomson: "Johnson has no ability of any kind."

Jackson: "No ability? Nonsense. Why, he can ask you for a loan in such a way that you thank your lucky stars for the opportunity to accommodate him."

In cleaning a sponge, dissolve half a small cupful of salt in a pint and a half of water. Knead and rub the sponge well in this, and then rinse.