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COLLECTIONTURKEY CHAT

by

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TURKEY CHAT

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Profits derived from raising market turkeys vary from year to year in accordance with changing economic conditions and the soundness of the farm program followed in rearing them. In 1935 the ratio of low feed costs to favorable turkey prices resulted in a greater profit per bird than could be expected to continue over a period of years. In 1936 beginners were attracted to the business; established growers expanded their operations; liberal credit became a commercial policy; the industry was over-expanded; feed prices increased and the results were chaotic marketing and unsatisfactory prices. In 1937 feed prices were higher; credit was more difficult; the crop was smaller and the price paid per pound of turkey meat left a margin of profit for the efficient growers. In 1938 the early predictions indicate a slight increase in numbers to be reared, a longer hatching season, reduced feed costs, lower priced competitive meats and an uncertain consumer's purchasing power.

COMPETITION AND MARKETS

Oregon raises approximately one million turkeys annually. Each state in the Union also raises turkeys. Oregon must find markets outside of the state for approximately two of each three turkeys raised. Oregon turkeys are known far and wide for their fine quality. The adoption of artificial methods of rearing turkeys has resulted in an increased number being produced in states near the large terminal markets to which Oregon turkeys must be shipped. Such industry problems as quality improvement, lower production costs, orderly marketing, improved packaging for the consumers and advertising must be given serious consideration by all concerned if the industry is to profitably meet competition from other producing areas and from other food commodities.

The Oregon turkey grower is fortified by years of experience and availability of quality breeding stock. He is further protected by having a choice of two methods of marketing his turkey crops: through established independent dealers and established cooperative marketing associations serving the western surplus producing areas. He is still further fortified by having a choice of purchasing his feeds either through cooperative or independent feed agencies.

A GOOD FEED IS A NECESSARY INVESTMENT

The turkey must be supplied with the feed nutrients necessary for its normal growth. Feed is only one factor in successful turkey farming but it is the greatest item of costs involved. There are on the market many excellent commercial turkey feeds which are being used successfully by growers. A large number of requests from producers, dealers and mills is received for information on turkey feed formulas and methods of feeding. It is hoped that this brief material will present a broader answer to the many questions asked than can be given in regular correspondence.

MASH FORMULAS, REFERENCES AND SUGGESTIONS

<u>BREEDER</u>	<u>STARTER</u>	<u>DEVELOPER</u>
240 lbs. bran-----	300 lbs. -----	300 lbs.
300 " ground yellow corn--	400 " -----	300 "
500 " ground wheat-----	450 " -----	400 "
250 " ground whole oats---	100 " -----	200 "
100 " ground barley-----	0 " -----	200 "
100 " meat scraps-----	200 " -----	100 "
100 " fish meal-----	180 " -----	200 "
80 " powdered milk-----	100 " -----	60 "
80 " dried whey-----	40 " -----	40 "
180 " alfalfa-----	160 " -----	140 "
20 " oyster shell flour--	10 " -----	10 "
30 " steamed bone meal---	40 " -----	30 "
20 " fine salt-----	20 " -----	20 "
2000 lbs. (Add 10 to 12 lbs. vitamin bearing fish oil of 400-D and 3000-A potency, or its equivalent or 30-40 lbs. of oil of U.S. potency.)	2000 lbs. (Same general vitamin D recommenda- tions as for breeder's mash.)	2000 lbs. (Use about one-third the amount of oil previously re- ferred to for birds on free range after 10-12 weeks.)

SCRATCH GRAIN REFERENCES

<u>BREEDER</u>	<u>STARTER</u>	<u>DEVELOPER</u>
1000 lbs. wheat	1000 lbs. cr. wheat	1000 lbs. wheat
400 " corn	1000 " cr. corn	500 " cr. corn
400 " oats		300 " barley
200 " rolled barley	2000 lbs.	200 " oats
2000 lbs.		2000 lbs.

FEED COMMENTS

The turkey cannot reproduce or grow normally unless it receives in reasonable balance the six different classes of nutrients grouped as follows: water, proteins, fats, carbohydrates, minerals and vitamins. There is no one best feed formula. Any feed, however, which meets the requirements of the bird for whatever purpose it is fed must be built to supply the required units of each vitamin, the calcium phosphorus ratio of the feed intake and other class nutrient requirements.

Mash and scratch feed formulas are elastic and the listed ingredients may be increased, decreased, eliminated or be replaced with others when price warrants, where palatability is not seriously affected and the ration consumed is not thrown out of balance.

Farms which provide liquid milk in ample amounts may eliminate powdered milk ingredients. Farms that supply an abundance of succulent green feed throughout the breeding, brooding, growing and early part of the finishing periods can reduce by two-thirds or more the dried alfalfa mash ingredients.

A uniform, coarsely ground mash is more palatable than the same ingredients ground to a powdery fineness. Feed in pellet form is preferred by many growers and has an economic advantage in strong wind areas. A reasonably coarse mash is less likely to promote feather pulling and similar cannibalistic vices. However, these vices do develop in some flocks on every type of feed used. Less crowding, more feed hoppers, more green feed, segregation of sexes and other management practices will do much in reducing such vices to the minimum.

The mash formulas given here are quite similar with respect to ingredients and vary only in amounts used for the different purposes of the particular feed. Numerous combinations, additions, reductions, eliminations and substitutions might be wisely made without destroying the balance of the nutrients. The turkey business is rapidly becoming a business in which only a small margin of profit per pound is left for the efficient grower. A greater utilization of home grown feed and grains should be practiced.

BREEDING STOCK

1. Breeding stock prospects should be marked throughout the growing season and selected in the early fall and separated from the market flock. They should not go through two or three fattening periods with the market band and then be cut back and called breeders.

2. A large flock mating should have access to a range which provides hiding places for more seclusive matings without interference from other toms. Feed troughs should be distributed over a wide area, not only to scatter the birds and afford mating opportunities but primarily to prevent a concentration of contamination.

3. Harem mating (one tom to 10-15 hens) should not be made in adjoining yards, unless partition fences obstruct vision from one yard to another. Toms spend too much time fighting through the fences; breeders show favoritism for individuals in adjoining pens and fertility is sacrificed.

4. Turkey breeding stock should be wintered on a bulky grain ration, green feed or hay, and plenty of exercise in order to avoid excessive fat. During January they should have part-time access to a well-balanced breeder's mash. As the season advances, free access to mash, greens, grain, hard grit and oyster shell is given. It is common practice of many to also provide hoppers of granulated bone and charcoal. The hen manufactures the egg if supplied the right materials. If range doesn't supply them (it rarely does), the owner must do so.

5. Various systems are followed in alternating the breeding toms. Extra toms should be held over for emergency replacement regardless of the methods of mating employed.

6. Turkey breeders are usually dressed out or sold live weight as soon as the breeding season is over. Hot weather at this time of year may result in loss of carcass value unless immediate pre-cooling facilities are available.

7. Turkey breeders are usually fed a ration rather high in cod liver or fish oil content. This ingredient, as with fall and winter marketed turkeys, should be discontinued a few weeks prior to sale for food purposes as some oils fed in liberal amount affect the flavor of the meat.

8. Turkeys should also not be marketed for 15 days after they have roosted on perches treated with Black Leaf 40 for body lice eradication. The nicotine fumes affect the flavor of the meat.

HATCHING EGGS

1. Turkey eggs saved for hatching should be held within a temperature range of 40 to 65 degrees.

2. An egg case equipped with turkey or duck egg fillers provides a safe storage place and tilting the case makes turning much quicker and easier.

3. A turkey egg that weighs less than 2 3/4 ounces is not often a desirable hatching egg. One that weighs much in excess of 3 1/2 ounces is all too often double yolked and an economic waste of incubator space.

4. Eggs saved for hatching should not, for optimum results, be held longer than 14 days.

5. Eggs being held for hatching should be turned once or twice daily after the first week.

6. Any egg can hatch only that which has been fed and bred into it.

FEEDING SCHEDULE DURING BROODING AND GROWING PERIOD

AGE	SCRATCH	MASH	DRINK	OTHER
First 36 to 48 hours	None	None	None	Hold in shipping boxes or in incubator. Poults will come out and learn to eat faster if room temperature for a day or two is 70° or warmer.
First feed to end of week	<p>None first few days. Sprinkle light grain feed on dry mash occasionally after 5th day.</p> <p>-----</p> <p>Objects 1st week:</p> <ol style="list-style-type: none"> 1. Teach poults source of heat, 2. Teach poults to eat. 	<p>5 or 6 feeds daily. Necessary to devote time to teach them all to eat.</p> <p>Hard boiled eggs (30 min.) added to dry mash makes it crumbly moist.</p> <p>Dry cottage cheese sprinkled over dry mash aids in teaching poults to eat.</p> <p>Gradually eliminate eggs or cheese as soon as all poults learn to eat.</p>	Warm water	<p>See that each poult gets food and drink. Cover litter with sacks or screen platform until poults learn to eat.</p> <p>Use hinged 12" boards or wire frames to keep poults near brooder. Enlarge this area daily.</p> <p>Reduce heat gradually after first week.</p>
Second week to finishing time	Gradually work toward leaving grain in hoppers before them at all times.	<p>Leave dry mash before poults.</p> <p>Change to developing mash by time poults go on clean range, where some shade is provided for.</p>	<p>Water</p> <p>Avoid dampness around all water fountains.</p> <p>Set water vessels on wire-covered frames.</p>	<p>Get poults outside. Supply succulent greens. Feed hard grit. Provide temporary roosts by 3-4 weeks. Provide additional feed hoppers. Move range roosting quarters frequently. Plan and plant a continuous green feed supply through summer and fall. Range sexes separately if possible.</p> <p>Don't run turkeys with chickens or on soil used by chickens.</p>

FINISHING TURKEYS FOR MARKET

Weather is an important factor which affects the time when turkeys "arrive" at prime flesh and feather maturity regardless of the method of finishing used. Breeding for both maturity and feather growth may be factors far greater than those now accredited to weather conditions.

The problem of finishing turkeys is often complicated by the fact that young turkeys of several ages are running together in the same flock. A strict fattening feed which would finish for market the oldest ones might deprive the younger birds, forced to eat the same feed, of necessary food elements needed for growth and resistance. Unless separation of older birds to be fattened from younger ones still growing is practicable, the practice of feeding both grain and developing mash (minus excessive fish meals and fish oils) is best. If older turkeys can get what they need, they won't make any mistake in taking on a fine finish. If younger turkeys can't get what they need, then trouble will be incurred. The method used in finishing turkeys very often differs from farm to farm because the flock conditions are vastly different.

Turkeys fed throughout their growing lives are in good flesh at all times. The last few weeks prior to slaughter is devoted to feeding practices designed to get the birds in prime flesh. It is a dangerous practice from the viewpoint of competitive marketing with other districts for growers to slaughter any birds that are not in prime flesh. Price "jitters" has prompted too many growers to market many of their turkeys before they were finished. An export market can easily be lost to someone else by such an uneconomic practice.

METHODS OF FINISHING

1. A low protein fattening mash, or pellet, which is fed in connection with liberal grain consumption.
2. A low protein fattening mash, or pellet, is fed as an all-inclusive finishing feed.
3. A relatively high protein developing mash fed with grain whereby turkeys of different ages in the same flock have free choice to either.
4. Exclusive feeding of grains during the last few weeks prior to slaughter. Turkeys of this age are still growing and can utilize to advantage additional proteins, minerals, etc. which the exclusive grain diet does not provide. Exclusive grain feeding over too long a period of time costs more per pound of gain than where some mash, or pellets, is fed. Many prefer grain as an exclusive diet during the last two weeks only.
5. Grain aided by free access to liquid milk is a method of finishing turkeys which is successfully practiced by many farmers.
6. Hogging down sunflowers and fields of corn with turkeys having access to mash is a practice which has given good results at a lesser cash outlay.

FINISHING MASH REFERENCES

A mash consisting of the following ingredients has satisfactorily met finishing and growth requirements during the six or eight weeks finishing period and where the birds also had access to grain.

200	lbs.	bran or millrun
500	"	ground yellow corn
600	"	ground wheat
200	"	ground oats
200	"	ground barley
100	"	meat scraps
60	"	powdered milk
80	"	alfalfa
20	"	shell flour
20	"	bone meal
20	"	salt
2000		lbs.

CAUTION

The industry as a whole has suffered from reports and actual cases of fishy flavored turkeys purchased by consumers. Most of Oregon's turkey crop is dependent upon public favor in out-of-state markets. The number of birds affected was small from this and other states but it does not take many such birds to injure the industry. Opinion ran rife and exaggerations were numerous, particularly during the 1936 marketing season.

The poultry department of Oregon State College in cooperation with members of the Oregon Poultry Council conducted three separate feeding, killing, storage and cooking tests involving 100 turkeys during 1936-37 to secure basic information which could be used to correct the situation and protect the investments of the producers.

The splendid cooperation of buyers, cooperatives, feed manufacturers, producers, educational agencies all working together eliminated almost 100% the fishy flavored turkey objections during the 1937-38 marketing season. Complete reports have been issued regarding each of the experiments conducted and only brief mention will be made here of the salient points to be observed in finishing turkeys.

Off-flavored turkeys were produced:

1. With 20% high grade fish meal in a mash to which was added 2% of a fish oil (not U.S.P.) and the turkeys given free choice of mash and grain.
2. With an all-mash finishing ration containing 10% high grade fish meal to which was added $\frac{1}{2}$ % of a U.S.P. vitamin D oil.

3. With 10% high grade fish meal in an all mash ration to which was added 1% of an U. S. P. vitamin D oil.

4. With a mash containing neither fish meal nor fish oils but where turkeys had free access to grain which had 2% U. S. P. oil mixed with it.

5. With an all mash ration containing 10% foreign fish meal to which was added 1% of off odor, off color, not U. S. P. vitamin D oil.

6. With an all mash ration containing 10% foreign fish meal to which was added 2% of off odor, off color, not U.S.P. vitamin D oil.

RECOMMENDATIONS AND SUGGESTIONS

Some flock owners have fed excessive amounts of vitamin D oils during the finishing period to hasten the finish, to promote feather maturity and to cure colds or roup. The abuse of vitamin D oils rather than the legitimate use of them can in no small measure be responsible for a condition which can easily undermine the industry.

The liberal feeding of fish oils in connection with liberal fish meal content of the mash is known to produce objectionable flavors. The problem is more complicated by the various grades and qualities of each which might be used.

Turkeys live, grow and fatten outdoors. There isn't the need of heavy fish and fish oil feeding during the few weeks prior to slaughter.

It is recommended that combinations of fish meals and fish oils be generally eliminated during the few weeks final fattening period.
