FRB CHICAGO

AGRICULTURAL LETTER

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Meat production continues on the upswing

Projections from the U.S. Department of Agriculture suggest that 1994 will mark the 12th consecutive year of rising meat production. The gain of 2.7 percent currently projected for this year, if realized, will be larger than last year's increase of 1.4 percent and it will slightly exceed the average annual rise since the current string of uninterrupted gains began in 1983. Poultry and beef are expected to account for all of this year's rise in meat production. Conversely, pork production is expected to decline for the second consecutive year.

The latest estimates of livestock inventories show mixed trends, with cattle numbers up and hog numbers down from year-ago levels. Cattle numbers as of the beginning of this year were up a little over 1 percent nationwide, marking the fifth consecutive year of a modest expansion among cattlemen. The biggest gains were for beef cows—up 3 percent—and for heifers being raised as future replacements for beef cows—up nearly 4 percent. The indicated expansion in foundation stock may foreshadow steeper gains in the number of cattle moving to packing plants in another year or two. In the interim, the expected trend in beef production is likely to reflect a small rise in the number of cattle going to slaughter plants and a bigger rise in the average weight of those cattle.

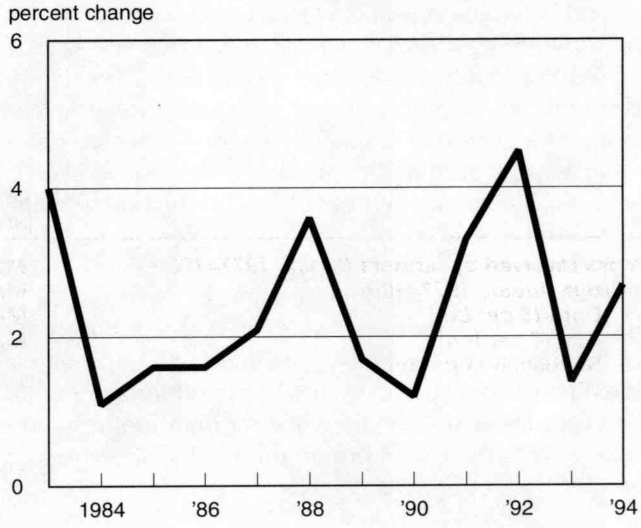
The estimates for the components of the cattle inventory that are most closely related to packing plant supplies point to an increase of only about 1 percent in cattle slaughter for this year. A more significant factor in terms of this year's rise in beef production is likely to be the heavier dressed weights of those cattle processed at packing plants. The prospects for heavier dressed weights stem from a larger mix of cattle coming through commercial feedlots and from a recovery in the weather-related cut in weights that occurred last year, especially during the winter and spring months. Last year the average dressed weight of cattle processed in federally inspected packing plants declined 1.6 percent, the first year-to-year decline in dressed weights since 1984 and a reversal of the 1 percent annual trend rate of increase in recent years. Higher feed costs will be an important factor in determining to what extent weights return to trend levels this year. Nevertheless, the rebound in weights will likely be more important than the rise in the number of cattle slaughtered in determining the 1994 rise in beef production.

The number of cattle in feedlots at the beginning of 1994 was estimated to be 12.9 million head, up nearly 2 percent from the year before and the largest for that date in 15 years. Among the five states in the Seventh Federal Reserve District, the number of cattle in feedlots was up 1 percent, with all of that gain occurring in Iowa (up 3 percent), Michigan (up 2 percent) and Wisconsin (up 4 percent). In contrast, cattle on feed numbers were unchanged in Illinois and down a tenth in Indiana. Updated reports for the seven major cattle feeding states that are surveyed monthly show the feedlot inventories for those states as of March 1 continued to hold 2 percent above the year-ago level.

This year's rise in beef production is expected to be fairly large during the first half and then taper off in the second half. Preliminary figures show cattle slaughter through early April of this year was up 2 percent. Heavier dressed weights pushed the rise in beef production up to 6 percent. Most analysts expect the rise in beef production in the second quarter will narrow to around 4 percent and be followed by a second-half gain of about 2 percent. The 3.8 percent rise in beef production currently projected by the USDA for all of 1994 portends the largest year-over-year gain since 1976. And on a per capita basis, it would mark the first year-over-year gain in beef production since 1986.

While beef production is turning up, pork production will likely retreat for the second consecutive year. The

Red meat production expected to be up again this year



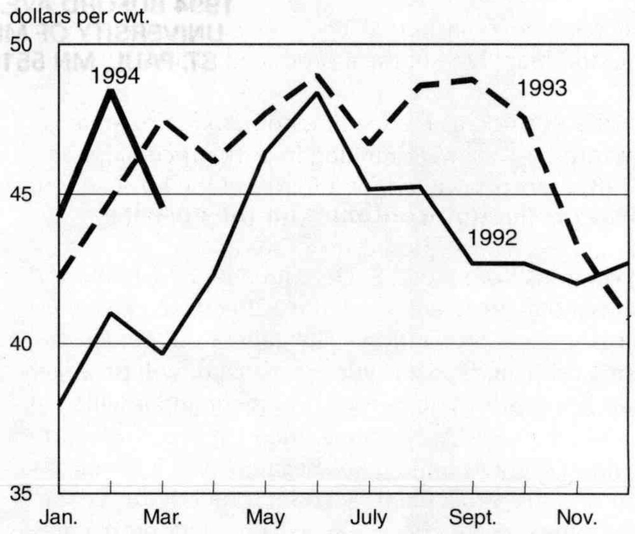
inventory of hogs and pigs on U.S. farms as of March 1 approximated 55.6 million head, down 1.5 percent from the year before. The number of sows that farrowed during the winter months was estimated to be unchanged from a year earlier. However, fewer pigs saved per litter led to a slight decline in the winter pig crop. The March 1 inventory of brood sows about matches the level of a year ago. However, the reported intentions of hog farmers point to a slight decline in sow farrowings this spring (March-May) followed by a return to year-earlier levels this summer (June-August). These farrowing intentions could result in a nominally larger pig crop for the spring and summer quarters combined if the number of pigs saved per litter resumes its historical uptrend.

Hog farmers in District states other than Michigan have generally pared production more than farmers elsewhere. Hogs and pigs on farms in Michigan as of March 1 numbered 3 percent more than a year ago. Conversely, hog numbers in Iowa and Wisconsin were down 2 percent while those in Illinois and Indiana were down 6 and 10 percent, respectively. The continuing surge in North Carolina—up 22 percent—boosted that state ahead of Illinois as the second ranking state in terms of hogs and pigs on farms. Over the last four years, hog numbers in North Carolina have doubled. Missouri also recorded another large increase in the number of brood sows in the most recent survey. Iowa remains the largest hog producing state with an inventory that is 2.5 times that of North Carolina. But based on producer's farrowing intentions, the gap between Iowa and both North Carolina and Missouri will continue to narrow in the months ahead.

The number of hogs shipped to packing plants through early April of this year was down about 2 percent, with pork production during the same period declining about 1 percent. The year-over-year decline will likely steepen this spring, with many analysts looking for a drop of about 4 percent in the second quarter. The second half pattern is likely to vary. Pork production in the summer months may temporarily match year-ago levels. But fourth-quarter pork production, while likely to reach a seasonal high for the year, will probably fall short of the year-earlier level by about 4 percent. On balance, pork production for all of this year will likely be down 2 percent, with per capita production retreating to a three-year low.

Poultry production continues on a pronounced uptrend, with a year-over-year gain of about 5 percent for the first quarter of 1994. The latest USDA projections suggest that rate of gain will extend throughout the year. Increases are projected for both broilers and turkeys, with the rise in broiler production slightly exceeding that for turkeys.

Hog prices have fluctuated widely in recent months



While District states account for only a minor share of the nation's poultry production and processing activities, they play a major role in livestock and red meat production. A recent report summarizing red meat production for 1993 found that packing plants within the five states comprising the Seventh Federal Reserve District accounted for 29 percent of all red meat produced in the United States last year. The share of red meat production coming from District states has held fairly stable over the past couple of decades, ranging from a high of 30.5 percent in 1980 to a low of 25.5 percent in 1986. This consistency has been achieved by garnering an increasing share of the nation's pork production to counter a declining share in beef packing operations.

Iowa retains its long-held top ranking, producing 6.64 billion pounds of red meats in 1993. That accounted for a majority (57 percent) of the red meat that came out of packing plants in the five District states last year and it represented nearly a sixth of red meat production nationwide. Packing plants in Illinois generated 2.26 billion pounds of red meats last year, sustaining by a narrow margin that state's fifth place ranking—over Minnesota—in meat production. Nebraska, Kansas, and Texas—all major cattle producing states—were sandwiched between Iowa and Illinois in terms of 1993 red meat production. Combined, the top six states accounted for 63 percent of all red meat production last year, up from a 55 percent share a decade ago. The biggest gains in red meat production among the top ranked states over the past 10 years have been in Nebraska, Kansas, and Minnesota.

The bulk (65 to 90 percent) of the red meat produced in Illinois, Indiana, and Iowa is pork. Alternatively, beef accounts for most of Wisconsin's red meat production. To avoid disclosure of individual plant operations, the USDA no longer publishes estimates by species for Michigan. However, when species figures for Michigan were last published—1989—pork was by far the dominate type of meat produced in that state.

Iowa's position as the leading hog producing state is mirrored by a similar ranking in pork processing. In 1993, Iowa accounted for a fourth of the hogs and pigs raised on farms nationwide. The share of hogs processed in packing plants in Iowa last year was even higher, 31 percent. On balance, it appears that pork packing plants in Iowa rely on shipments of hogs from neighboring states to sustain a sizable chunk of their operations. Moreover, the size of the hog production deficit relative to the activity at pork packing plants in Iowa appears to have increased in recent years. A decade ago, for example, Iowa's share of all hogs processed in packing plants virtually matched its 25 percent share of all hogs raised on farms. Simultaneously, it appears that the neighboring states of Minnesota and South Dakota also process more hogs in packing plants than are produced by farmers in those states. The implications of this imbalance are somewhat mixed. On the one hand, the competition between packers should provide relatively strong hog markets for farmers in Iowa and neighboring states. Alternatively, the excess hog processing capacity may be vulnerable to relocating to states where hog production significantly exceeds slaughter (such as Indiana) or to states where hog production is now undergoing rapid growth.

The meat packing industry in recent years has undergone major structural changes that, in many respects, are a mirror image of changes among livestock producers. The most evident change has been the decline in the number of packing plants and the concurrent rise in the capacity of the remaining plants. As of the start of 1994, livestock packing plants nationwide, numbered about 3,760. Of those, about 730 were located in the five District states. For both District states and the nation as a whole, the beginning 1994 plant numbers were off nearly a third from 10 years ago. Similar comparisons for livestock producers show that the number of places where hogs are raised has declined 50 percent over the last 10 years while the number of cattle raising operations has fallen 30 percent.

Despite the reduction in packing plant numbers that has already occurred, the vast majority of the plants still operating are small and account for only a marginal portion of all meat production. Reflecting this, over 98 percent of all slaughter cattle and hogs in this country are processed in so-called federally-inspected plants; plants which distribute meat interstate and thus must employ inspectors to assure compliance with USDA standards. In terms of numbers, these federally-inspected plants represent only a fourth of all packing plants nationwide and only a sixth of all packing plants in District states.

Further indications of the concentration of meat production among a handful of packing plants is evident in the distribution of livestock processed at federally inspected plants by plant size. In 1993, there were some 890 federally inspected plants that butchered hogs and about 930 such plants that butchered cattle. The 10 largest pork packing plants accounted for nearly 40 percent of the hogs that passed through all federally inspected plants last year. On average, those 10 plants processed nearly 3.6 million head of hogs each in 1993. To put that in perspective, two plants of that size could have processed the bulk of all hogs grown on Indiana farms last year. In addition to those 10 plants, the next largest 25 plants processed another 47 percent of all hogs that moved through federally inspected packing plants last year. Together, the 35 largest hog packing plants represented only 4 percent of all federally-inspected pork packing plants last year while accounting for 86 percent of all hogs slaughtered in such plants. A similar analogy for hog farmers shows that the largest places where hogs are raised represent 5 percent of all hog operations and 50 percent of the inventory of all hogs on farms.

The concentration among beef packing plants is just as impressive. The 12 largest beef packing plants slaughtered 43 percent of all cattle that moved through federally inspected beef packing plants last year. On average, those plants processed nearly 1.2 million head of cattle each in 1993. The next largest 31 plants accounted for an additional 40 percent of all federally inspected cattle slaughter. In short, the 43 largest beef packing plants represented less than 5 percent of all beef packing plants but accounted for 83 percent of all cattle slaughtered at federally inspected plants in 1993.

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Selected agricultural economic indicators

	Latest period	Value	Percent change from: Prior period	Year ago	Two years ago
Prices received by farmers *(index, 1977=100)*	March	148	0.0	5	3
Crops *(index, 1977=100)*	March	132	–2.2	14	–1
Corn *($ per bu.)*	March	2.72	–2.5	30	9
Hay *($ per ton)*	March	90.80	4.5	15	30
Soybeans *($ per bu.)*	March	6.76	0.9	20	19
Wheat *($ per bu.)*	March	3.37	–5.9	2	–9
Livestock and products *(index, 1977=100)*	March	163	1.2	–2	5
Barrows and gilts *($ per cwt.)*	March	45.40	–6.4	–3	15
Steers and heifers *($ per cwt.)*	March	75.30	2.7	–7	–1
Milk *($ per cwt.)*	March	13.50	0.0	11	8
Eggs *(¢ per doz.)*	March	65.9	3.5	–7	22
Consumer prices *(index, 1982-84=100)*	March	147	0.3	3	6
Food	March	143	0.2	2	4
Production or stocks					
Corn stocks *(mil. bu.)*	March 1	3,995	N.A.	–30	–12
Soybean stocks *(mil. bu.)*	March 1	1,008	N.A.	–17	–14
Wheat stocks *(mil. bu.)*	March 1	1,017	N.A.	–2	15
Beef production *(bil. lb.)*	February	1.80	–7.3	7	5
Pork production *(bil. lb.)*	February	1.28	–7.4	–1	–4
Milk production* *(bil. lb.)*	March	11.0	12.1	–1	–1
Receipts from farm marketings *(mil. dol.)*	December	18,412	–4.9	8	14
Crops**	December	9,449	–5.7	3	15
Livestock	December	7,232	–5.7	9	10
Government payments	December	1,731	3.8	44	25
Agricultural exports *(mil. dol.)*	January	3,737	–8.5	2	2
Corn *(mil. bu.)*	January	102	–28.3	–34	2
Soybeans *(mil. bu.)*	January	71	–3.9	–20	–4
Wheat *(mil. bu.)*	January	115	–7.8	1	–15
Farm machinery sales *(units)*					
Tractors, over 40 HP	March	6,598	67.3	40	16
40 to 100 HP	March	3,301	51.8	20	3
100 HP or more	March	3,297	86.3	67	32
Combines	March	574	53.9	60	18

N.A. Not applicable
*21 selected states.
**Includes net CCC loans.

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