Livestock and Products Semi-annual

Consolidation and Modernization Continue to Shape China's Livestock Outlook

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Report Highlights:

China’s beef production will increase by 1 percent in 2018 to 7.4 MMT. Nevertheless, China’s appetite for beef is forecast to grow by 3 percent to 8.4 million metric tons (MMT), outpacing demand and leading to higher imports. China recently approved several new suppliers, most notably the United States, to help meet this growing demand. Getting off to a slow, but steady start, U.S.-origin beef imports in 2017 were valued at $31 million dollars (representing six months of market access).

In 2018, the number of swine on large-scale farms surpassed that of small-scale farms (for the first time). This change has resulted in a more productive swine herd, leading to an increase in domestic pork production by 3 percent to 55 MMT. This increased production will continue to put a downward pressure on prices, leading to a substantial decrease in imports (down to 1.5 MMT) and an increase in exports, mainly to Hong Kong.

CATTLE
Production:

Cow herd to increase slightly in 2018

Post forecasts China’s calf crop to continue increasing in 2018 by 0.7 percent to 51 million head. This increase is mainly due to continued growth on large-scale farms. Due to long breeding times, there is a lag between when large farms invest in additional cattle production and when that investment begins to result in increased production capacity. Small-scale farms continue to retreat from the market or take a wait-and-see approach. One factor that continues to constrain growth in this industry is the increasingly strict environmental regulations.

Feed costs to increase slightly in 2018 due to upwards pressure on corn prices

Overall feed costs will increase slightly in 2018 due to rising corn prices. Chinese corn farmers reduced their overall planted corn acreage this year in a continued effort by the central government to reduce massive reserves generated in the past. At the same time, the central government has also been pushing for expanded corn utilization in the further processing industry, particularly ethanol production, which has driven up demand.

Trade:

Live cattle imports will further decrease in 2018 to 100,000 head. China mainly imports live cattle for genetic improvement. Imports from Australia, which account for over half of total imports, will be down in 2018 as the Australian herd continues to rebuild following a serious drought. As such, supplies remain tight which will constrain imports.

Policy:

From January 1, 2018, China’s central government began rolling out a nationwide Environmental Protection Tax program. This program levies a tax on farms with more than 50 head of cattle, 500 head of swine, or 5,000 head of chicken/duck. Each province will designate the tax rate to be levied. To incentivize farms to invest in environmental controls, farms with qualifying pollution control and rehabilitation measures will be exempted or receive a lower tax rate. This program will further increase the production costs for many Chinese farmers, driving many small and medium operations to either consolidate or exit the market.

Live Cattle Production Supply Demand Table
<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
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<td>53000</td>
<td>53000</td>
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<tr>
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<td>50500</td>
<td>50500</td>
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<tr>
<td>Total Imports</td>
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<td>133</td>
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<tr>
<td>Total Supply</td>
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<td>150408</td>
<td>149793</td>
<td>149779</td>
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<tr>
<td>Total Exports</td>
<td>17</td>
<td>17</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>Cow Slaughter</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calf Slaughter</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>51850</td>
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<tr>
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</tr>
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<td>99173</td>
<td>98100</td>
<td>96850</td>
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<tr>
<td>Total Distribution</td>
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<td>149793</td>
<td>149779</td>
</tr>
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</table>

Note: Estimates included in this report are not USDA’s official figures, which can be found at http://www.fas.usda.gov/psdonlineonline

**BEEF**

**Production:**

*Production will increase in 2018 by 1 percent, due to growing demand*

Post forecasts production in 2018 will reach 7.35 million metric tons (MMT), an increase of about 1 percent compared to 2017. One primary factor that is driving this increase is the combination of low milk prices and high beef prices. Low milk prices have prompted dairy farmers to slaughter their less productive dairy cattle for beef processing at a faster rate than usual. The high beef prices generate immediate income and allows the operation to replace the less productive dairy cows with more productive ones.
Consumption:

Consumption will increase by 3 percent in 2018

Post forecasts consumption will continue to increase in 2018 to reach 8.4 MMT. Beef demand continues to surpass supply in China. With the increasing living standards and urbanization, new demand for beef will continue to outpace supply. China’s per capita beef consumption was about 5.8 kg/person in 2017 and is estimated to reach 6.0 kg/person in 2018. However, this is still well below the world average per capita consumption (currently at 8.6 kg/person) and belies continued growth potential.

High-quality and branded beef products are particularly popular in China. Prosperous E-commerce platforms further facilitate the demand of high-end beef products from tech-savvy middle-class consumers. In fact, the majority of steak cuts for home consumption are from E-commerce platforms, not retail supermarkets.

Imports:

Post forecasts overall imports will increase 8 percent to 1.05 MMT in 2018.

Post forecasts imports will continue increasing to reach 1.05 MMT in 2018, up 8 percent from 2017. China continues to allow access for additional beef exporting countries; the current total is 14. Products from the United States, Canada, and Australia are deemed “value products” in China and command a premium price. Exports from South American countries are deemed “volume products,” and accounted for about 70 percent of total imports in 2017. Brazil was the leading exporter in 2017, but Post estimates that exports from Brazil will decrease in 2018 due to continued investigations of its meat industry and regulatory system.

China imported $31 million worth of U.S. beef in the first six months of the market opening
With the ban on U.S. exports lifted in June 2017, U.S.-origin imports are still slowly returning to the market. In 2017, China imported 3,000 metric tons of U.S. beef, valued at $31 million in the first six months of the market opening (June to December). Nearly 75 percent of that was frozen boneless beef.¹

### Beef Production and Supply Table

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>New Post</td>
<td>USDA Official</td>
</tr>
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<td>Slaughter (Reference)</td>
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<td>50500</td>
</tr>
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<tr>
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<td>7000</td>
<td>7070</td>
</tr>
<tr>
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<td>818</td>
<td>925</td>
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<tr>
<td>Total Supply</td>
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<td>7818</td>
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<td>Total Exports</td>
<td>23</td>
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<td>20</td>
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<tr>
<td>Human Dom. Consumption</td>
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<td>Other Use, Losses</td>
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<tr>
<td>Total Dom. Consumption</td>
<td>7765</td>
<td>7765</td>
<td>7985</td>
</tr>
<tr>
<td>Ending Stocks</td>
<td>30</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Total Distribution</td>
<td>7818</td>
<td>7818</td>
<td>8025</td>
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(1000 HEAD), (1000 MT CWE)

Note: Estimates included in this report are not USDA’s official figures, which can be found at [http://www.fas.usda.gov/psdonlineonline](http://www.fas.usda.gov/psdonlineonline)

China's Average National Retail Beef Prices, 2013-2017

<table>
<thead>
<tr>
<th>(RMB /KG)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change 2016/17</th>
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<tbody>
<tr>
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<td>55.26</td>
<td>63.87</td>
<td>63.99</td>
<td>63.38</td>
<td>63.54</td>
<td>0.25%</td>
</tr>
<tr>
<td>February</td>
<td>57.89</td>
<td>64.39</td>
<td>64.75</td>
<td>64.36</td>
<td>63.69</td>
<td>-1%</td>
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<tr>
<td>March</td>
<td>57.27</td>
<td>63.32</td>
<td>63.97</td>
<td>63.31</td>
<td>62.68</td>
<td>-1%</td>
</tr>
<tr>
<td>April</td>
<td>56.99</td>
<td>62.59</td>
<td>63.02</td>
<td>62.85</td>
<td>62.32</td>
<td>0.8%</td>
</tr>
<tr>
<td>May</td>
<td>57.48</td>
<td>62.57</td>
<td>62.61</td>
<td>62.55</td>
<td>61.98</td>
<td>-0.9%</td>
</tr>
<tr>
<td>June</td>
<td>58.09</td>
<td>62.56</td>
<td>62.44</td>
<td>62.35</td>
<td>61.84</td>
<td>-0.8%</td>
</tr>
<tr>
<td>July</td>
<td>58.56</td>
<td>62.64</td>
<td>62.44</td>
<td>61.98</td>
<td>61.77</td>
<td>-0.3%</td>
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<tr>
<td>August</td>
<td>59.17</td>
<td>62.94</td>
<td>62.78</td>
<td>61.83</td>
<td>61.99</td>
<td>2.6%</td>
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<td>September</td>
<td>60.07</td>
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<td>63.02</td>
<td>62.12</td>
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<td>October</td>
<td>60.78</td>
<td>63.56</td>
<td>63.20</td>
<td>62.15</td>
<td>63.03</td>
<td>1.4%</td>
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<td>61.56</td>
<td>63.76</td>
<td>63.29</td>
<td>62.49</td>
<td>63.46</td>
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<tr>
<td>December</td>
<td>62.63</td>
<td>63.97</td>
<td>63.46</td>
<td>62.86</td>
<td>64.18</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Source: MOA data collected from over 400 markets of farm produce.

SWINE

Production:

Post forecasts 2018 sow beginning stocks at 45 million head, up 2.3 percent from 2017. Both the piglet price and live hog price have decreased since 2017, indicating that supply has recovered. Active replenishment in this sector is led by continued consolidation and expansion of large-scale operations. Industry sources estimate that in 2017, the number of hogs on large-scale farms surpassed that of small-scale farms for the first time. As a result of this increased expansion for large-scale farms, productivity has increased. Herd quality has improved due to enhanced genetics, leading to an increase in pigs per sow. In addition, many operations have undergone vertical integration, increasing access to higher quality feed and improved marketing.

The table below shows live pig sales from the top 5 swine companies in China for 2017.

<table>
<thead>
<tr>
<th>Company</th>
<th>Live Swine Sales (unit:10,000 head)</th>
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</thead>
<tbody>
<tr>
<td>Wen</td>
<td>1904.17</td>
</tr>
<tr>
<td>Mu Yuan</td>
<td>723.7</td>
</tr>
<tr>
<td>Chu Ying</td>
<td>250.96</td>
</tr>
<tr>
<td>Zheng Bang</td>
<td>342.25</td>
</tr>
<tr>
<td>Tian Bang</td>
<td>101.42</td>
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</table>

Source: Industry

Wen is still the largest swine production company in China. The second largest, MuYuan, has undergone a rapid expansion and in 2017 sold 7.23 million head—4 million more than in 2016. Looking ahead to 2018, MuYuan has forecast its sales number will be 11 to 14 million head. Although these large operations will continue expanding in 2018, Post forecasts their expansion speed will slow (with the
exception of some very aggressive companies like MuYuan). The reasons for this slowing include downward pressure on the live swine price, increasing environmental regulations and taxes, and competition for land resources. Post estimates the live swine price will continue to go down in 2018 since more pigs will be available in the market and profit margins will shrink. This will cause additional small-scale farms to exit the market and large-scale operations to slow expansion.

_Swine production will shift from Southern China and the Yangtze River Region towards North China, Northeast China, and Southwest China_

The map below shows the 5 major swine breeding regions in China. The red area, Northeast China, occupies about 10 percent of pig production in China; the yellow area, North China, occupies about 26 percent of pig production; the blue area, the Yangtze River Region, occupies about 25 percent of pig production; the green area, South China, occupies 13 percent of production; and the purple area, Southwest China, occupies the remaining 21 percent. Swine from these five major regions constitute 95 percent of total pig production in China.

Current trends indicate that swine production is shifting north and west. Despite its mountainous terrain, the Southwest Region has seen high growth due to the large amount of pork consumption in the region. While South China also consumes a high volume of pork, this area has seen a decrease in swine production as a result of strict environmental regulations which have increased production costs. Production costs are lowest in the Northeast Region as result of its co-location with feed production centers.
China's Piglet Price, Weekly

2015-2017

Source: MOA
Increasing feed costs will push the hog-corn price ratio close to the breakeven point in 2018

Post estimates feed costs will increase slightly due to increased corn prices in 2018. Corn farmers reduced their planted corn acreage in 2018 due to high stockpiles. In addition, the central government used various policy tools to expand corn utilization in the further processing industry, driving up demand for corn, including for ethanol production. This has put upward pressure on the corn price in China this year. When combined with the decreasing price for live hogs, it is likely that the hog-corn price ratio will be close to its profitability breakeven indicator of 6:1.²

![China Hog-Corn Price Ratio](chart.png)

**PORK**

**Production:**

*Pork production up 3 percent in 2018 due to increased production capacity on large-scale farms*

Post forecasts production in 2018 will increase to 54.75 million tons. In 2018, the sow herd replenishment will continue to be led by large-scale farms further expanding their market share. A number of these consolidated farms will have their new production come on-line in 2018 which will lead to a notable increase in production capacity. The increased supply will cause downward pressure on the domestic pork price.

Consumption:

Consumption will increase 3 percent in 2018 with faster growth in 2nd and 3rd tier cities

Consumption will increase to about 56 million tons in 2018, representing a 3 percent increase from 2017. The increased consumption is mainly driven by cheaper prices in 2018. Pork is still the main meat protein source for Chinese consumers, but has recently had to compete with other proteins for market share. Beef, mutton, and seafood have seen increases as China becomes wealthier. But as prices fall, price-sensitive Chinese consumers will increase their pork consumption.

In 1st tier cities, consumption of pork is nearing saturation levels. With the enhanced standard of living and income, city consumers are searching out proteins that they consider to be healthy and low fat, such as seafood and poultry. These urban consumers also seek what they perceive as “safer” products, which has translated into the growing popularity of branded pork. According to an online E-commerce platform survey, about 50 percent of consumers who shop on its platform will buy branded pork products 3 times a week, and 48 percent consumers will buy black pork which is perceived as a premium pork product in China. Food safety was an important consideration in their choice.

Imports:

Imports will decrease by 7 percent in 2018 to about 1.5 million tons.

Source: MOA. Horizontal axis measured in months.
With the increased supply of domestically produced pork, the pork price will continue its downward trend, which will further narrow down the gap between domestic and imported products. Chinese consumers’ pork consumption is already at a relatively high level and will not increase that much, thus the increased domestic supply will result in reduced imports. The majority of imported product is frozen and because Chinese consumers prefer fresh pork, most imported product is consumed by processing facilities, churning out ham and sausage.

Germany is still the largest pork exporter to China. Overall, imports from EU countries account for nearly two-thirds of China’s total pork imports. United States is the third largest pork exporter to China.

Exports:

Post forecasts exports will increase to 220,000 metric tons in 2018 due to low prices. China mainly exports to Hong Kong which regularly accounts for over half of all China’s pork exports.

Swine Production Supply and Demand Table

<table>
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<tr>
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<th></th>
<th></th>
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<th></th>
<th></th>
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<td>1500</td>
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<td>1600</td>
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<td>0</td>
<td>0</td>
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<td>690000</td>
<td>688610</td>
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<td>700000</td>
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<td>700000</td>
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<td>1124446</td>
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</table>

(1000 HEAD)

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Pork Production Supply and Demand Table
### China National Retail Pork Prices on Average, 2013-2017

<table>
<thead>
<tr>
<th>(RMB /KG)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change 2017/16</th>
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<tbody>
<tr>
<td>January</td>
<td>26.43</td>
<td>24.37</td>
<td>22.37</td>
<td>27.66</td>
<td>28.95</td>
<td>4.7%</td>
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<td>26.32</td>
<td>22.98</td>
<td>22.02</td>
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<td>28.57</td>
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<td>23.96</td>
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<td>21.44</td>
<td>28.97</td>
<td>27.43</td>
<td>-5.3%</td>
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<td>22.03</td>
<td>19.70</td>
<td>21.54</td>
<td>30.20</td>
<td>26.59</td>
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<td>May</td>
<td>21.48</td>
<td>20.86</td>
<td>22.33</td>
<td>30.97</td>
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<td>-18.5%</td>
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<td>June</td>
<td>22.81</td>
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<td>37.6</td>
<td>24.11</td>
<td>-35.9%</td>
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<tr>
<td>July</td>
<td>23.43</td>
<td>21.91</td>
<td>25.81</td>
<td>30.24</td>
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<td>-17.9%</td>
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<td>23.90</td>
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<td>29.6</td>
<td>24.92</td>
<td>-15.8%</td>
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<tr>
<td>October</td>
<td>25.24</td>
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<td>27.54</td>
<td>28.24</td>
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<td>-12.5%</td>
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<tr>
<td>November</td>
<td>25.07</td>
<td>23.17</td>
<td>26.69</td>
<td>27.93</td>
<td>24.55</td>
<td>-12.1%</td>
</tr>
<tr>
<td>December</td>
<td>25.22</td>
<td>22.88</td>
<td>26.76</td>
<td>28.21</td>
<td>25.11</td>
<td>-11%</td>
</tr>
</tbody>
</table>

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.
### China Live Hog Prices on Average, 2013-2017

<table>
<thead>
<tr>
<th>(RMB /KG)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change 2017/16</th>
</tr>
</thead>
<tbody>
<tr>
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<td>17.04</td>
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<td>13.38</td>
<td>17.62</td>
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</tr>
<tr>
<td>February</td>
<td>16.09</td>
<td>13.11</td>
<td>12.71</td>
<td>18.37</td>
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</tr>
<tr>
<td>March</td>
<td>14.07</td>
<td>12.05</td>
<td>12.27</td>
<td>18.90</td>
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<td>-11.1%</td>
</tr>
<tr>
<td>April</td>
<td>12.80</td>
<td>11.12</td>
<td>12.91</td>
<td>19.84</td>
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<td>-19.4%</td>
</tr>
<tr>
<td>May</td>
<td>12.48</td>
<td>12.79</td>
<td>13.92</td>
<td>20.45</td>
<td>14.6</td>
<td>-28.6%</td>
</tr>
<tr>
<td>June</td>
<td>14.10</td>
<td>13.06</td>
<td>14.87</td>
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</tr>
<tr>
<td>July</td>
<td>14.61</td>
<td>13.34</td>
<td>16.86</td>
<td>19.03</td>
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<td>-26.6%</td>
</tr>
<tr>
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<td>15.70</td>
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<td>18.62</td>
<td>14.42</td>
<td>-22.6%</td>
</tr>
<tr>
<td>September</td>
<td>16.04</td>
<td>14.88</td>
<td>17.86</td>
<td>18.36</td>
<td>14.75</td>
<td>-19.7%</td>
</tr>
<tr>
<td>October</td>
<td>15.86</td>
<td>14.42</td>
<td>17.10</td>
<td>16.88</td>
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</tr>
<tr>
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<td>15.77</td>
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<td>16.45</td>
<td>16.98</td>
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<tr>
<td>December</td>
<td>15.92</td>
<td>13.81</td>
<td>16.71</td>
<td>17.46</td>
<td>15.07</td>
<td>-13.7%</td>
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</table>

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.

### China Piglet Prices on Average, 2013-2017 (Year to Date)

<table>
<thead>
<tr>
<th>(RMB /KG)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change 2017/16</th>
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<tbody>
<tr>
<td>January</td>
<td>27.41</td>
<td>24.36</td>
<td>19.29</td>
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<tr>
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<td>27.79</td>
<td>23.22</td>
<td>19.21</td>
<td>35.05</td>
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<tr>
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<td>22.76</td>
<td>20.09</td>
<td>40.77</td>
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<td>25.26</td>
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<td>23.07</td>
<td>47.30</td>
<td>43</td>
<td>-9%</td>
</tr>
<tr>
<td>May</td>
<td>24.89</td>
<td>22.99</td>
<td>25.75</td>
<td>51.01</td>
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<tr>
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<td>27.09</td>
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<td>49.11</td>
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<tr>
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<td>29.71</td>
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<td>34.33</td>
<td>47.06</td>
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<tr>
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<td>34.16</td>
<td>45.7</td>
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<tr>
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<td>31.99</td>
<td>41.15</td>
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<tr>
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<td>29.73</td>
<td>39.06</td>
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<td>38.88</td>
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<td>-21.6%</td>
</tr>
</tbody>
</table>

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.