Russian wheat: the new reference for cash wheat worldwide

From net importer to No. 1 Exporter

Swithun Still
Solaris Commodities S.A.
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Solaris Commodities S.A. started trading in Feb. 2012

See [WWW.SOLARIS-CH.COM](http://WWW.SOLARIS-CH.COM)

Traded 1.6 Million MT of Russian grain last season

Largest trader of Russian corn in 2015/2016 season

Export partner of MIRO GROUP RESOURCES, based in the grain heartland of southern Russian, Krasnodar.

Exporting from 3,000 MT coasters from Azov Sea to 63,000 MT Panamax size + containers.
RUSSIAN WHEAT - SYNOPSIS OF PRESENTATION

1. Overview of agricultural sector in Russia.
2. Where wheat is grown in Russia
5. Cost advantages of growing wheat in Russia
6. Quality of Russian wheat vs. other origins.
7. Export destinations.
9. Conclusions / questions.

TWITTER:
@RUSSIANGRAINTRA
Russia and Farming

- During the Soviet period farms were collectives, called ‘Kolkhoz’ - ‘Sovhoz’
- USSR ended in 1991 and farms were privatised.
- Cash is king. Sale of wheat domestically is in roubles and include 10% VAT, which is reimbursed to the exporter between 2-6 months after export.
Russian Land

- Russia has 10% of all arable land in the world and 40% of what is known as “Black Earth” (3% of the arable land in Russia) which are in an area called the “Kuban” Krasnodar / Stavropol regions)

- Yields for wheat in the Kuban are often over 7 tonnes per hectare as opposed to the Russian average of 2.5 tonnes per hectare.
Russian Agricultural Sector

- The Russian agricultural sector employs around 7 million people or 9% of the working population and produces 5% of the gross national product of Russia.

- The Russian agriculture sector has 124mln ha (of which 49mln ha are set aside for grain production, of which 29mln ha of wheat (15mln ha winter wheat / 14mln ha spring wheat).

- In 1990 there were around 25,000 “collective” farms. In 2015 there were 285,000 private farms, which generally have between 10 and 100 hectares, but there are 40 huge agri-businesses in Russia with over 100,000 hectares.
In 2017 Russian wheat area to be 7% higher than in 2016: this is the 5th consecutive year of annual growth. This represents the largest area since 1990.

The total area sown to grain & oilseed crops in Russia is expected to grow from 49 million ha in 2014 to 52.1 million ha in 2030. This represents a 6% growth in total area, with the wheat area increasing from 48% of the total area to 52% over the same period.

The Russian government is expected to invest over $38 billion in the next 15 years with investment from the private sector totalling over $40 billion. Despite this investment, Russian still has 18Mln ha of idle farmland (although some say this could be as much as 30Mln !!)

Source: AEGIC
RUSSIA: Winter Wheat Production by Oblast

Winter wheat accounts for about two-thirds of total Russian wheat production.

Sources: USDA / ROSSTAT
RUSSIAN SPRING WHEAT PRODUCTION Source - USDA/ Rosstat
SOVIET UNION - Russia
Importer to top exporter

1970s
• Soviet Union imported millions of tonnes of grain
• The “Great Grain Robbery”

1980s
• Imports continue

1990s
• 1991 End of USSR. Start of Exports

2000 - 2015
• Russia becomes a major wheat exporter (with exceptions in 2010 & 2012)

2030-2040
• Russia could produce over 75 million MT of wheat with 35-40 million MT of exports
Winter vs Spring Wheat Area %

Source: IKAR
Winter vs Spring Wheat Production (MMT). Areas planted are similar, but winter wheat has better yields.

Source: IKAR
Russian “Net” Wheat Trade.
An incredible rise in the past 17 years!

Sources: Agrochart-AgResource-USDA
Russian Wheat Exports - MMT

Source: Agrochart
Russia’s Total 2016/17 Wheat Supply will be up 16% from 2015/16
The Largest on Record!
Russian Wheat Harvested Acres & Yields

Source: Agrochart
Russian Wheat Production (MMT)

Source: Agrochart
Russian Wheat Production & Exports (mmt)

Source: Agrochart
Russian Wheat Supply/Demand Balances
July/June; Mln HA; MMT

<table>
<thead>
<tr>
<th></th>
<th>15/16</th>
<th>16/17</th>
<th>17/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvested</td>
<td>25.6</td>
<td>27.1</td>
<td>26.5</td>
</tr>
<tr>
<td>Yield</td>
<td>2.4</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Carry In</td>
<td>6.3</td>
<td>5.7</td>
<td>10.5</td>
</tr>
<tr>
<td>Production</td>
<td>61.1</td>
<td>72.5</td>
<td>70</td>
</tr>
<tr>
<td>Imports</td>
<td>0.8</td>
<td>0.3</td>
<td>0.07</td>
</tr>
<tr>
<td>Supply</td>
<td>68.2</td>
<td>78.5</td>
<td>81.1</td>
</tr>
<tr>
<td>Feed</td>
<td>14</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Other Ind</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Domestic Use</td>
<td>37</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>Exports</td>
<td>26</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Total Demand</td>
<td>63</td>
<td>68</td>
<td>69</td>
</tr>
<tr>
<td>Carry Out</td>
<td>5.7</td>
<td>10.5</td>
<td>12.1</td>
</tr>
<tr>
<td>Stocks/Use</td>
<td>9.1</td>
<td>15.4</td>
<td>17</td>
</tr>
<tr>
<td>Exports Season to Date</td>
<td>17.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance to Ship</td>
<td></td>
<td></td>
<td>11.7</td>
</tr>
</tbody>
</table>

Source: WASDE
Sale of wheat are as per local «GOST» standards in roubles.

Some traders give finance to farmers against their production, but legally the farmer can repay these prepayments (with interest) rather than deliver the goods. This engenders certain risks for the traders.

The busiest time of year is July-September as farmers come to market with their crops after harvest. Most farmers deliver their goods ex-works on the farm, but some are entering the export market directly.

Many large scale farming operations, but many decisions are still taken by the owner only. Futures contracts to hedge are not widely used. Prices are followed on local information providers such as IKAR or SOVECON or RUSAGRORTANS.
Quality of GOST Standard

- 5 grades of wheat in Russia.
- 1st class 14.5 protein / 32 % wet gluten
- 2nd class 13.5 protein / 28 % wet gluten.
- 3rd class 12.5 protein / 23 % wet gluten.
- 4th class. 11 protein / 18 % wet gluten.
- 5th class. Feed wheat. No min protein/gluten.

- GOST Gluten= +2% for ISO result.
Export Quality - 12.5% Protein Milling Wheat

Protein: min. 12.5% (N x 5.7 dry matter)

(minimum 12% for GASC)

Specific Weight: min. 77 kg/hl
Gluten: min. 25% (ISO 21415-1)
Falling Number Hagberg: min. 250 sec
W: min. 180
Moisture: max. 14%
Foreign Matter: max. 2%
Bug Damage: max. 1%
### Quality of Russian wheat
(as per SGS data)

<table>
<thead>
<tr>
<th>Specification/ Russia</th>
<th>Min.</th>
<th>Average</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein (dry matter basis) %</td>
<td>9.5%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>Moisture %</td>
<td>9%</td>
<td>12.5%</td>
<td>20%</td>
</tr>
<tr>
<td>Test Weight (kg/hl)</td>
<td>66.5</td>
<td>77.8</td>
<td>80</td>
</tr>
<tr>
<td>Foreign matter %</td>
<td>0.17%</td>
<td>0.77%</td>
<td>7%</td>
</tr>
<tr>
<td>Bug damage %</td>
<td>0.2%</td>
<td>0.84%</td>
<td>5%</td>
</tr>
<tr>
<td>Falling Number /Hagberg (seconds)</td>
<td>60</td>
<td>346</td>
<td>490</td>
</tr>
<tr>
<td>Gluten, ISO 21415-2</td>
<td>13%</td>
<td>26%</td>
<td>38%</td>
</tr>
</tbody>
</table>
Loading Ports

8 main ports = 28 MMT

Yeisk 1 MMT

TAMAN & Temryuk 5 MMT

Novorossisk 13 MMT annual capacity via 3 silos
(NKHP 4, KSK 4 & NZT 5)

TAMAN & Temryuk

BLACK SEA

Rostov on Don 4.5 MMT

Taganrog 500 KMT

Azov Sea

Azov 2 MMT

Tuapse 2 MMT
**TOP 10 importers of Russian wheat period 2011 to date.**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Quantity (mmt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Egypt</td>
<td>26.46</td>
</tr>
<tr>
<td>2</td>
<td>Turkey</td>
<td>17.38</td>
</tr>
<tr>
<td>3</td>
<td>Iran</td>
<td>5.42</td>
</tr>
<tr>
<td>4</td>
<td>Yemen</td>
<td>4.71</td>
</tr>
<tr>
<td>5</td>
<td>Nigeria</td>
<td>3.28</td>
</tr>
<tr>
<td>6</td>
<td>Bangladesh</td>
<td>3.27</td>
</tr>
<tr>
<td>7</td>
<td>Israel</td>
<td>2.82</td>
</tr>
<tr>
<td>8</td>
<td>Sudan</td>
<td>2.80</td>
</tr>
<tr>
<td>9</td>
<td>Libya</td>
<td>2.20</td>
</tr>
<tr>
<td>10</td>
<td>Lebanon</td>
<td>1.82</td>
</tr>
</tbody>
</table>

Source: IKAR
Destinations of Russian Grains
Truly Global

Mexico

North Africa

Middle East

India, Pakistan, Bangladesh

Indonesia, S.Korea

Ghana, Senegal, Sth Africa
Growing Share of World Wheat Exports

Source: Agrochart
Top World Exporters of Wheat (mmt)
Russian = top exporter in 2016

Source: USDA
Russian Wheat - Yield and Carryout

Yield (Mt/HA)

Wheat Carryout (MMT)

Source: Agrochart
Wheat Yields for Major Producers - MT/HA

Source: WASDE
GASC Volume by Origin - YTD 2016/17

YTD total purchases 4.6MT, of which Russia 3.34MT or 73%.
FSU-12’s All Grains "Net" Exports

Russia and Ukraine imposed export embargo or prohibitively high export taxes
Russia and Ukraine imposed high export taxes
Russia and Ukraine imposed export embargoes
Ukraine imposed export restrictions in Dec ‘12
Ukraine imposed export restrictions in Dec ‘13
Russia imposed export restrictions in Dec & a Tax in Feb
Russia implements a variable export levy

Source: AgResource
The Growing Reach of Russian Wheat

Nigerian Wheat Imports

Mexico Wheat Imports

Source: WASDE
When Russia Sneezes the Wheat Market Catches a Cold (and Heats Up !! )

November 2007
10% (to 40%) export tax; 2008 export ban

August 2010
Export ban; Contracts cancelled

September 2012
Severe drought; Export ban rumored then ‘threatened’

January 2014
Ukraine situation & Crimea annexed; Export impact feared

December 2014
Minimum 35 Euro export tax

Source: AgResource
### Production Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>rub/ha</td>
<td>1,210</td>
</tr>
<tr>
<td>Other farm input costs/pesticides</td>
<td>rub/ha</td>
<td>3,150</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>rub/ha</td>
<td>6,040</td>
</tr>
<tr>
<td>Fuel (petrol/diesel)</td>
<td>rub/ha</td>
<td>1,560</td>
</tr>
<tr>
<td>Cost of land rental/ownership-salaries-administration costs</td>
<td>rub/ha</td>
<td>14,290</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>26,250</td>
</tr>
<tr>
<td><strong>Yield of wheat (MT/ha in Krasnador)</strong></td>
<td>mt/ha</td>
<td>5.20</td>
</tr>
<tr>
<td><strong>Costs per tonne (MT)</strong></td>
<td>rub/mt</td>
<td>5,048</td>
</tr>
<tr>
<td><strong>Storage + transport to inland silo/cleaning</strong></td>
<td>rub/mt</td>
<td>555</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td>rub/mt</td>
<td>5,603</td>
</tr>
</tbody>
</table>

(average) Exchange Rate of 1 USD = 60 roubles $93 / MT

- Cost of transport to port of loading (Novorossisk) CPT: 900 rubles $15
- Cost of fobbing at Novorossisk: 1200 rubles $20
- Total cost FOB: $128
- FOB price 12.5% February 2017 = 190 USD

Profit: $62 / MT
With the exception of the Ukraine, Russia is the most cost effective producer of wheat in the world currently. With significant cost advantages in fertilizer & pesticide cost as well as low land values and labour costs.

Vast improvements in supply chain efficiencies during the peak load period of July-September have taken place since 2009 with significant investment, particularly in port infrastructure.

Source: IntlFCStone
Russian Wheat is the Best Value Milling Wheat in the World

Current World FOB Levels (as of Feb 23rd)

- Russian 12.5% $191
- HRW 12% Gulf $217
- 2SRW Gulf $188
- French 11% $191
- German 12.5% $194
- APW $207
- Argentina 12% $188

Source: Fryers Report
Average Prices of Crop Land in 2016

Source: SovEcon, USDA
Future for Russian wheat

- Russia can improve yields and increase global market share.
- Infrastructure projects are planned in the Black Sea, the Azov sea as well as in the Caspian to serve demand in Iran and in the Far East, notably in Vladivostok for the Asian market.
- Russian wheat often has the best quality/price ratio. Good extraction values for flour.
- Production costs are low ($90-115/mt) & the price of land up to 5x less than in USA/ EU. (between $1,500 - $3,000 per hectare vs $5,000 in Kansas? $20,000 in Iowa? As per Sovecon)
Some points to watch

- Politics: there have been some export restrictions/ taxes (most notably the ban in 2010, unlikely to be repeated)
- Weather - extreme cold in winter/ very hot in the summer.
- Default risk/ counterparty risk.
- Fraud + financing issues
- Cost of logistics rising/ expensive FOBING cost $28/mt in peak season in Novorossissk. Can infrastructure keep pace?
- Cultural differences/ communication difficulty/ Few local participants know international rules (such as GAFTA)
- The % of bug damage impacts on quality.
- Success of Russian Wheat exports has been without a centrally funded lobby group (no US Wheat Associates or France Export Cereales equivalent)
Thank You - 
Спасибо!