



AgCube Example Use Scenarios

AgCube allows for rich querying of the exposed tables to extract the desired data for the desired geographies. A few of the most common applications include:

Examining trends in specific geographic areas and specific times

If one is interested in seeing how soybean harvest acreages changed during the 1990s for a specific county in Iowa, it is simple to define what you're looking for:

```
SELECT * FROM NassData WHERE Year > 1989 AND Year < 2000 AND State = 'Iowa' AND Commodity = 'Soybeans' AND County = 'Winneshiiek'
```

Year	State	County	District	Practice	Commodity	Planted	Harvested	Production	Yield	Production_unit
1991	Iowa	Winneshiiek	30	Total For Crop	Soybeans	39600	39300	1461000	37.175572519084	bushel
1992	Iowa	Winneshiiek	30	Total For Crop	Soybeans	36000	35700	1410000	39.4957983193277	bushel
1994	Iowa	Winneshiiek	30	Total For Crop	Soybeans	154000	153600	7311000	47.59765625	bushel
1999	Iowa	Winneshiiek	30	Irrigated	Soybeans	974.181464745478	947.612879343328	50126.0644587218	52.8971962616822	bushel
1999	Iowa	Winneshiiek	30	Non Irrigated Total	Soybeans	59513.6313008146	59008.8281781738	1437714.71806164	24.3644004202311	bushel
1999	Iowa	Winneshiiek	30	Total For Crop	Soybeans	20600	20600	645000	31.3106796116505	bushel

Comparing performance across a state

If instead one is interested in irrigated corn production performance for Nebraska in 2005, and wants to see how it compares to the 5 year historical average, it can be accomplished by using a combination of two of our data tables:

```
SELECT * FROM NassData WHERE Year = 2005 AND State = 'Nebraska' AND Commodity = 'Corn for Grain' AND Practice = 'Irrigated'
```

2005	Nebraska	Douglas	60	Irrigated	Corn For Grain	347.493815658478	208.496289395087	31969.43104058	153.333333333333	bushel
2005	Nebraska	Hamilton	60	Irrigated	Corn For Grain	255.700568065276	180.494518634312	22862.6390270129	126.666666666667	bushel
2005	Nebraska	Lancaster	60	Irrigated	Corn For Grain	5000	4700	760000	161.702127659574	bushel
2005	Nebraska	Memick	60	Irrigated	Corn For Grain	3300	3200	525000	164.0625	bushel
2005	Nebraska	Nance	60	Irrigated	Corn For Grain	504.052354804439	302.431412882663	47884.9737064217	158.333333333333	bushel
2005	Nebraska	Platte	60	Irrigated	Corn For Grain	431.150430927059	304.341480654395	38549.92088289	126.666666666667	bushel
2005	Nebraska	Polk	60	Irrigated	Corn For Grain	495.947645195561	297.568587117337	47115.0262935783	158.333333333333	bushel

```
SELECT * FROM Running5YearAvgs WHERE Year = 2005 AND State = 'Nebraska' AND Commodity = 'Corn for Grain' AND Practice = 'Irrigated'
```

2005	Nebraska	Lodge	60	Irigated	Corn For Grain	1202.83081432932	999.807922086845	155106.735984312	bushel
2005	Nebraska	Douglas	60	Irigated	Corn For Grain	2385.54945235885	2005.54945235885	277459.165504819	bushel
2005	Nebraska	Hamilton	60	Irigated	Corn For Grain	3571.74340904174	3434.22352860666	497270.682069051	bushel
2005	Nebraska	Lancaster	60	Irigated	Corn For Grain	1121.11415399085	993.167871478848	165937.866394564	bushel
2005	Nebraska	Merrick	60	Irigated	Corn For Grain	1146.17435764033	998.27520957971	144214.401373763	bushel
2005	Nebraska	Nance	60	Irigated	Corn For Grain	661.388262893169	542.447327273392	71798.2157182135	bushel
2005	Nebraska	Platte	60	Irigated	Corn For Grain	2580.90078888483	2272.65778323902	309148.949005929	bushel
2005	Nebraska	Polk	60	Irigated	Corn For Grain	587.130012283005	449.034054641727	61909.1568972497	bushel

In this example, we see that several Nebraska counties like Platte have reduced production numbers in 2005 compared to the previous 5 year average, while others like Merrick have improved production. This can drive us to try and determine why these changes occurred.

Determine the best performing counties in an area

If someone is interested in which areas in Illinois were showing the best yields for wheat in 2007, this could easily be assessed at the county level:

```
SELECT * FROM NassData WHERE State = 'Illinois' AND Year = 2007 AND
Commodity = 'Wheat All' AND Practice = 'Total For Crop' ORDER BY Yield
DESC
```

Year	State	County	District	Practice	Commodity	Planted	Harvested	Production	Yield	Production_unit
2007	Illinois	Grundy	20	Total For Crop	Wheat All	27600	26600	2768000	104.06015037594	bushel
2007	Illinois	Moultrie	70	Total For Crop	Wheat All	2200	2100	207000	98.5714285714286	bushel
2007	Illinois	Kendall	20	Total For Crop	Wheat All	70200	67800	6378000	94.070796460177	bushel
2007	Illinois	Will	20	Total For Crop	Wheat All	13800	13300	1170000	87.9699248120301	bushel
2007	Illinois	De Kalb	20	Total For Crop	Wheat All	2900	2800	242000	86.4285714285714	bushel
2007	Illinois	Marion	70	Total For Crop	Wheat All	8900	8300	705800	85.0361445783133	bushel
2007	Illinois	Shelby	70	Total For Crop	Wheat All	201.679084654037	126.049427908773	10235.2135461924	81.2	bushel