

FEDERAL CROP INSURANCE QUOTER

API Documentation 2020

[API Portal](#)

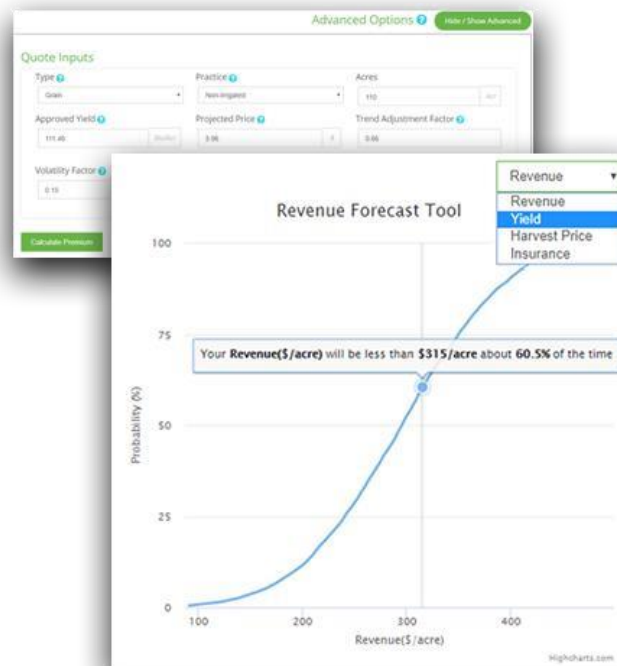
[GitHub Repo](#)

[Jupyter Notebook](#)

[Purchase](#)

Service Overview

The Federal Crop Insurance Quoter API is used to calculate insurance premiums for Yield Protection, Revenue Protection, and Revenue Protection with Harvest Price exclusion, along with their area coverage alternatives.



Insurance Quoter within FarmScope

POST Request

POST Request Example – application/json

```
{
  'FIPS':17081, 'CropCode':41, 'Type':16, 'Practice':3, 'PreventedPlanting':0,
  'UseTAYield':1, 'UsePerAcre':1, 'SharePercentage':1.00,
  'TrendAdjustedYield':129.88, 'Acres':44.56999969, 'Year':2019, 'APHYield':129.88,
  'Price':4.00, 'Volatility':0.15, 'IncludeAdminFee':0.0
}
```

Header Parameters

content-type:"application/json"

Request Parameters

Name	Type	Description
FIPS	int	The FIPS code of a county (e.g. 17019).
CropCode	int	The code for a crop (e.g. corn's crop code is 41) from table A00420 of RMA ADM files.
Type	int	The code for the type of a crop (e.g. corn type grain is 16) from RMA ADM files.
Practice	int	The code for the practice type of a crop (e.g. non-irrigated is 3) from RMA ADM files.
PreventedPlanning	int	An integer in the range [0, 2]. 0 = Standard, 1 = Plus 5%, 2 = Plus 1.
UseTAYield	int	An integer in the range [0, 1]. 1 = Use Trend-Adjusted Yield, 0 = do not use TrendAdjusted Yield.
SharePercentage	double	A float indicating the insured share percent, in the range [0.001, 1].
TrendAdjustedYield	double	A double specifying the TrendAdjusted Yield.
Acres	double	A double specifying the acreage.
Year	int	An integer specifying the year that the calculation should take place for.
APHYield	double	A double specifying the Actual Production History Yield.
Price	double	A double specifying the projected crop price.
Volatility	double	A double specifying the volatility of the crop.
ReturnParameters	int	If value is 1, parameters for the steps of the premium calculation are included in the response. If value is 0, parameters from the premium calculation are not included in the response.
HighRiskCode	string	Subcounty high risk code that the insured field is located in and is relevant to the specified crop, practice, and type (e.g. 'AAA').



POST Response

POST Response Example – application/json

```
{
  "Premium": [[8.57,5.83,3.52,6.91,4.6,2.78,7.4,5.0,3.03],[11.62,8.01,4.46,9.38,6.26,
3.48,10.03,6.91,3.84],[14.2,10.03,5.56,11.53,7.83,4.35,12.25,8.57,4.76],[19.63,14.
07,6.87,16.06,10.99,5.36,16.87,12.0,5.86],[23.51,17.25,8.41,19.41,13.55,6.62,20.13
,14.56,7.11],[30.56,22.91,11.71,25.4,18.17,9.29,26.16,19.23,9.83]], "PremiumAllAcres
": [[382.0,260.0,157.0,308.0,205.0,124.0,330.0,223.0,135.0],[518.0,357.0,199.0,418.
0,279.0,155.0,447.0,308.0,171.0],[633.0,447.0,248.0,514.0,349.0,194.0,546.0,382.0,
212.0],[875.0,627.0,306.0,716.0,490.0,239.0,752.0,535.0,261.0],[1048.0,769.0,375.0
,865.0,604.0,295.0,897.0,649.0,317.0],[1362.0,1021.0,522.0,1132.0,810.0,414.0,1166
.0,857.0,438.0]], "Subsidy": [[0.67,0.8],[0.64,0.8],[0.64,0.8],[0.59,0.8],[0.59,0.8]
,[0.55,0.77]], "Liability": [[13888.0],[15047.0],[16206.0],[17364.0],[18523.0],[1968
2.0]], "TotalPremium": [[39.47,27.84,27.84,32.02,21.74,21.74,34.06,23.83,23.83],[47.
86,34.33,34.33,39.2,26.83,26.83,41.13,29.28,29.28],[57.33,42.07,42.07,47.32,33.05,
33.05,49.11,35.52,35.52],[67.89,50.91,50.91,56.45,40.41,40.41,58.13,42.74,42.74]],
"TotalPremiumAllAcres": [[1759.0,1241.0,1241.0,1427.0,969.0,969.0,1518.0,1062.0,106
2.0],[2133.0,1530.0,1530.0,1747.0,1196.0,1196.0,1833.0,1305.0,1305.0],[2555.0,1875
.0,1875.0,2109.0,1473.0,1473.0,2189.0,1583.0,1583.0],[3026.0,2269.0,2269.0,2516.0,
1801.0,1801.0,2591.0,1905.0,1905.0],[3543.0,2710.0,2710.0,2969.0,2170.0,2170.0,304
0.0,2267.0,2267.0],[4321.0,3356.0,3279.0,3675.0,2744.0,2667.0,3742.0,2836.0,2759.0
]], "SubsidyAmount": [[25.26,17.81,22.28,20.48,13.91,17.39,21.81,15.26,19.07],[28.23
,20.26,27.46,23.13,15.84,21.47,24.25,17.28,23.42],[33.81,24.81,33.65,27.91,19.5,26
.43,28.99,20.96,28.4],[37.33,28.0,39.2,31.05,22.23,31.12,31.97,23.51,32.91],[38.16
,29.19,41.35,31.97,23.38,33.12,32.74,24.41,34.6],[36.84,28.61,38.99,31.34,23.4,31.
73,31.9,24.19,32.8]], "SubsidyAmountAllAcres": [[1126.0,794.0,993.0,913.0,620.0,775.
0,972.0,680.0,850.0],[1258.0,903.0,1224.0,1031.0,706.0,957.0,1081.0,770.0,1044.0],
[1507.0,1106.0,1500.0,1244.0,869.0,1178.0,1292.0,934.0,1266.0],[1664.0,1248.0,1747
.0,1384.0,991.0,1387.0,1425.0,1048.0,1467.0],[1701.0,1301.0,1843.0,1425.0,1042.0,1
476.0,1459.0,1088.0,1542.0],[1642.0,1275.0,1738.0,1397.0,1043.0,1414.0,1422.0,1078
.0,1462.0]], "Guarantee": [[312.0,312.0,77.9],[338.0,338.0,84.4],[364.0,364.0,90.9],
[390.0,390.0,97.4],[416.0,416.0,103.9],[442.0,442.0,110.4]], "CountyLevelPrem": [[31
.93,23.9475,21.286666666666669,0.0,0.0,0.0,26.38,19.785,17.586666666666666],[40.79
,30.5925,27.193333333333332,0.0,0.0,0.0,29.7,22.275000000000002,19.8],[50.74,38.05
5000000000007,33.826666666666675,0.0,0.0,0.0,36.37,27.2775,24.246666666666666]], "C
ountyLevelGuarantee": [[387.0,387.0,96.8],[415.0,415.0,103.7],[443.0,443.0,110.6],[
470.0,470.0,117.6],[498.0,498.0,124.5]], "CountyDataAvailable": true, "Plans": [2,3,6,
16,31,4,1,17,32,3,5,2,33,1]
}
```



Response Parameters

Name	Type	Description
Premium	double[8 , 9]	The eight arrays are for coverage levels 50% - 85%, index corresponding the ascending coverage. Within each array, index values are as shown: double[* , 0] → RP Optional, double[* , 1] → RP Basic, double[* , 2] → RP Enterprise, double[* , 3] → RPHPE Optional, double[* , 4] → RPHPE Basic, double[* , 5] → RPHPE Enterprise, double[* , 6] → YP Optional, double[* , 7] → YP Basic, double[* , 8] → YP Enterprise
PremiumAllAcres	double[8 , 9]	The premium per acre from the 'Premium' value multiplied by the acreage. Has same index structure as 'Premium'.
Subsidy	double[8 , 2]	The eight arrays are for coverage levels 50% - 85%, index corresponding the ascending coverage. Within each array, index arrays are as follows: double[* , 0] → Subsidy rate for Basic/Optional units double[* , 1] → Subsidy rate for Enterprise units.
Liability	double[8 , 1]	The eight arrays are for coverage levels 50% - 85%, index corresponding the ascending coverage. Each value is the liability at that coverage level.
TotalPremium	double[8 , 9]	Same structure as 'Premium'. Values are the premiums before the subtracting the subsidy.
TotalPremiumAllAcres	double[8 , 9]	The total premium per acre from 'TotalPremium' multiplied by the acreage amount. Has same index structure as 'Premium'.
SubsidyAmount	double[8 , 9]	Same index structure as 'Premium'. Values are the dollar amount per acre that are subtracted from the 'TotalPremium' to give you the 'Premium'.
SubsidyAmountAllAcres	double[8 , 9]	The subsidy amount per acre from 'SubsidyAmountAllAcres' multiplied by acreage amount. Has same index structure as 'Premium'.
Guarantee	double[8 , 3]	The eight arrays are for 50-85% coverage levels with index corresponding to ascending coverage level. The values in each array are as follows: double[* , 0] → Minimum Revenue Guarantee double[* , 1] → Revenue guarantee double[* , 2] → Yield guarantee
CountyLevelPrem	double[5, 9]	The five arrays are for coverage levels index corresponding the ascending coverage. The values in each list match the index structure in 'Premium'.



CountyLevelGuarantee	double[5 , 3]	The five arrays are for coverage levels index corresponding the ascending coverage. The values in each array are as follows: double[* , 0] → Minimum Revenue Guarantee double[* , 1] → Revenue guarantee double[* , 2] → Yield guarantee
CountyDataAvailable	bool	Indicates whether county level data is available for the input given.
Plans	Int[]	Array of unspecified length, indicating what insurance plans are available for the inputs given.
Parameters	string	Array of unspecified length, indicating what insurance plans are available for the inputs given. Coverage levels (e.g. '50%') Policy ('rp', 'yp', 'rphpe') Unit ('Basic', 'Optional', 'Enterprise') Parameters (Parameters of the equation)

Citations:

- USDA Risk Management Agency: <https://www.rma.usda.gov/>



Please contact support@analytics.ag or josh@ag-analytics.org with any comments or questions.

[Terms of Use and Privacy](#)

