Table 1. Crop weight in national acreage for each province averaged over 2017-2021

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **region** | **corn** | **soy** | **rice** | **wheat** | **vege** | **fruit** | **oil** |
| Heilongjiang | 14.28 | 45.73 | 12.8 | 0.32 | 0.79 | 2.02 | 0.4 |
| Jilin | 10.13 | 3.19 | 2.77 | 0.01 | 0.54 | 1.67 | 2.23 |
| Shandong | 9.29 | 1.86 | 0.37 | 16.81 | 7.09 | 9.95 | 5.26 |
| Henan | 9.22 | 4.15 | 2.04 | 23.89 | 8.31 | 14.23 | 11.64 |
| Inner Mongolia | 9.15 | 12.11 | 0.5 | 2.28 | 0.95 | 2.54 | 7.14 |
| Hebei | 8.21 | 0.92 | 0.26 | 9.64 | 3.77 | 3.44 | 2.81 |
| Liaoning | 6.42 | 0.99 | 1.68 | 0.01 | 1.52 | 2.12 | 2.31 |
| **Subtotal:** | 66.7 | 68.95 | 20.42 | 52.96 | 22.97 | 35.97 | 31.79 |
|  |  |  |  |  |  |  |  |
| Sichuan | 4.4 | 4.58 | 6.21 | 2.58 | 6.71 | 2.35 | 11.8 |
| Yunnan | 4.28 | 1.97 | 2.74 | 1.36 | 5.62 | 1.37 | 2.34 |
| Shanxi | 4.18 | 1.41 | 0.01 | 2.29 | 0.89 | 0.74 | 0.76 |
| Anhui | 2.84 | 7.03 | 8.42 | 11.9 | 3.27 | 4.1 | 4.03 |
| Shaanxi | 2.81 | 1.72 | 0.35 | 4.03 | 2.43 | 3.5 | 2.1 |
| Xinjiang | 2.48 | 0.32 | 0.2 | 4.54 | 1.43 | 5.53 | 1.49 |
| Gansu | 2.42 | 0.56 | 0.01 | 3.1 | 1.82 | 3.02 | 2.3 |
| Hubei | 1.81 | 2.47 | 7.7 | 4.48 | 5.98 | 4.54 | 10.16 |
| Guizhou | 1.51 | 2.29 | 2.22 | 0.59 | 6.79 | 1.41 | 4.59 |
| Guangxi | 1.41 | 1.1 | 5.83 | 0.01 | 7.12 | 5.58 | 1.94 |
| Jiangsu | 1.22 | 2.2 | 7.34 | 9.93 | 6.83 | 7.54 | 2.13 |
| **Subtotal:** | 29.36 | 25.65 | 41.03 | 44.81 | 48.89 | 39.68 | 43.64 |
|  |  |  |  |  |  |  |  |
| **Total:** | 96.06 | 94.6 | 61.45 | 97.77 | 71.86 | 75.65 | 75.43 |

Table 2. Crop structure and state-owned farm for each province averaged over 2017-2021

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **region** | **corn** | **soybean** | **rice** | **wheat** | **vege** | **fruit** | **oil** | **SOF** | **%SOF** |
| Nation | 25.22 | 5.31 | 18.05 | 14.32 | 12.55 | 1.28 | 7.82 | 6327.79 | 3.83 |
| Jilin | 69.56 | 4.63 | 13.64 | 0.05 | 1.87 | 0.58 | 4.76 | 117.73 | 2.05 |
| Liaoning | 63.66 | 2.06 | 11.92 | 0.07 | 7.49 | 1.07 | 7.1 | 156.74 | 3.73 |
| Shanxi | 49.38 | 3.5 | 0.05 | 15.41 | 5.24 | 0.44 | 2.8 | 6.57 | 0.18 |
| Inner Mongolia | 43.45 | 12.1 | 1.69 | 6.15 | 2.23 | 0.61 | 10.5 | 684.44 | 8.55 |
| Hebei | 42.21 | 1 | 0.95 | 28.16 | 9.66 | 0.9 | 4.48 | 95.77 | 1.13 |
| Heilongjiang | 40.52 | 27.36 | 26 | 0.52 | 1.11 | 0.29 | 0.35 | 2914.78 | 21.71 |
| Shandong | 35.57 | 1.51 | 1.03 | 36.52 | 13.5 | 1.93 | 6.24 | 11.79 | 0.11 |
| Shaanxi | 28.67 | 3.67 | 2.56 | 23.34 | 12.32 | 1.81 | 6.63 | 9.90 | 0.24 |
| Gansu | 26.43 | 1.27 | 0.09 | 19.22 | 9.87 | 1.67 | 7.81 | 65.12 | 1.64 |
| Henan | 26.34 | 2.49 | 4.18 | 38.75 | 11.82 | 2.06 | 10.32 | 27.18 | 0.19 |
| Yunnan | 26 | 2.51 | 11.93 | 4.69 | 17 | 0.42 | 4.41 | 12.62 | 0.18 |
| Sichuan | 18.99 | 4.15 | 19.21 | 6.32 | 14.42 | 0.51 | 15.8 | 1.10 | 0.01 |
| Xinjiang | 16.93 | 0.46 | 0.99 | 17.63 | 4.85 | 1.92 | 3.17 | 1585.25 | 28.10 |
| Anhui | 13.6 | 7.05 | 28.84 | 32.3 | 7.8 | 1 | 5.98 | 30.64 | 0.34 |
| Guizhou | 11.55 | 3.67 | 12.16 | 2.57 | 25.89 | 0.55 | 10.87 | 1.70 | 0.03 |
| Guangxi | 9.82 | 1.6 | 29.08 | 0.06 | 24.67 | 1.97 | 4.19 | 33.70 | 0.56 |
| Hubei | 9.59 | 2.73 | 29.14 | 13.46 | 15.73 | 1.22 | 16.66 | 137.88 | 1.72 |
| Jiangsu | 6.86 | 2.58 | 29.48 | 31.62 | 19.07 | 2.15 | 3.7 | 67.84 | 0.89 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **region** | **corn** | **soybean** | **rice** | **wheat** | **vege** | **fruit** | **oil** | **SOF** | **%SOF** |
| Nation | 25.22 | 5.31 | 18.05 | 14.32 | 12.55 | 1.28 | 7.82 | 6327.79 | 3.83 |
| Jilin | 69.56 | 4.63 | 13.64 | 0.05 | 1.87 | 0.58 | 4.76 | 117.73 | 2.05 |
| Liaoning | 63.66 | 2.06 | 11.92 | 0.07 | 7.49 | 1.07 | 7.1 | 156.74 | 3.73 |
| Inner Mongolia | 43.45 | 12.1 | 1.69 | 6.15 | 2.23 | 0.61 | 10.5 | 684.44 | 8.55 |
| Hebei | 42.21 | 1 | 0.95 | 28.16 | 9.66 | 0.9 | 4.48 | 95.77 | 1.13 |
| Heilongjiang | 40.52 | 27.36 | 26 | 0.52 | 1.11 | 0.29 | 0.35 | 2914.78 | 21.71 |
| Shandong | 35.57 | 1.51 | 1.03 | 36.52 | 13.5 | 1.93 | 6.24 | 11.79 | 0.11 |
| Henan | 26.34 | 2.49 | 4.18 | 38.75 | 11.82 | 2.06 | 10.32 | 27.18 | 0.19 |
| Anhui | 13.6 | 7.05 | 28.84 | 32.3 | 7.8 | 1 | 5.98 | 30.64 | 0.34 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **region** | **SOF** | **%SOF** | **%SOF** |  |
| Nation | 6327.79 | 3.83 | 3.83 |  |
| Jilin | 117.73 | 2.05 | 2.05 |  |
| Liaoning | 156.74 | 3.73 | 3.73 |  |
| Inner Mongolia | 684.44 | 8.55 | 8.55 |  |
| Hebei | 95.77 | 1.13 | 1.13 |  |
| Heilongjiang | 2914.78 | 21.71 | 21.71 |  |
| Shandong | 11.79 | 0.11 | 0.11 |  |
| Henan | 27.18 | 0.19 | 0.19 |  |
| Anhui | 30.64 | 0.34 | 0.34 |  |

High State: Heilongjiang, Neimenggu (>500)

Middle state: Liaoning, Jilin (100~500)

Low State: Hebei, Anhui, Henan, Shandong (10~100)

A graph of different countries/regions

Description automatically generated with medium confidence

Figure 1. Soybean and Corn Acreage Share

1. Soybean Expansion Crowd out Corn Production, observed by the decrease in corn share since 2016.
2. Provinces, such as Inner Mongolia and Heilongjiang, with high SOF responds to **the policy change more fast and intensively**.

A graph of different colored dots

Description automatically generated with medium confidence

Figure 2. Vegetable, Fruit, and Oil Acreage Share

1. Soybean Expansion Crowd out Vegetable since 2015

**A screenshot of a graph

Description automatically generated**

**Figure. Percentage Change in Soybean Acreage over 2010-2021**

**A screenshot of a graph

Description automatically generated**

**In March 2016, Doc name XX, China proposes to increase soybean acreage to XX, while destock corn acreage to XX by 2020. To fulfill the goal, China has increased subsidy policy**

**Hypothesis:**

**Do soybean expansion crowd out other crops, such as vegetable and fruit?**

**Do government have stronger impact in regions with larger state-owned farmland, so that they respond to the cropland shift more fast and intensively?**

**Does the government's impact vary across regions, with stronger influence in areas having larger state-owned farmland, resulting in quicker and more intense responses to shifts in cropland allocation?**

**Target:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  | **Corn** | **Rice** | **Wheat** | **Soybean** | **Vegetable** | **Fruit** | **Date** |
|  |  |  |  |  |  |  |  |
| **2020** | **5亿亩** | **4.5亿亩** | **3.6亿亩** | **1.4亿亩** | **3.2亿亩** |  | **2016** |
| **2022** |  |  |  | **1.46亿亩** |  |  |  |
| **2023** |  |  |  | **1.64亿亩** |  |  |  |

**2022 April:《2022年农垦带头扩种大豆油料行动方案》：**大豆种植面积达到1460万亩

2023 January: 全国农业农村厅局长会议召开 今年再扩种大豆油料1000万亩以上

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Soybean** | **Target** | **Realize** |  |  |
| **2020** |  |  |  |  |
| **2022** |  | **1.54** |  |  |
| **2023** |  |  |  |  |
|  |  |  |  |  |
| **Rice** |  |  |  |  |
| **2020** |  |  |  |  |
| **2022** |  |  |  |  |
| **2023** |  |  |  |  |
|  |  |  |  |  |
| **Wheat** |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

* **What is the goal of cropland allocation adjustment in recent Chinese Agricultural Policy?**
  + - **Increase soybean to 9,333 thousand ha, decrease corn by XX by 2020**
    - **Increase soybean to XX ha by 2022**

**Increase soybean to XX by 2023**