#### 1）水稻产量预测模型构建

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| **系数a** | | | | | | | | |  |
| 模型 | | 未标准化系数 | | 标准化系数 | t | 显著性 | B 的 95.0% 置信区间 | |  |
| B | 标准错误 | Beta | 下限 | 上限 |  |
| 1 | (常量) | -21862.698 | 2664.961 |  | -8.204 | .000 | -27089.347 | -16636.049 |  |
| 柴油使用量（万吨）x1 | 6.398 | .746 | .168 | 8.573 | .000 | 4.934 | 7.862 |  |
| 冷冻灾成灾面积(千公顷)x2 | -.624 | .427 | -.032 | -1.460 | .144 | -1.461 | .214 |  |
| Surface downward shortwave radiation/W/m2 x3 | -5.953 | .744 | -.253 | -7.999 | .000 | -7.412 | -4.493 |  |
| 农用氮肥施用折纯量(万吨)  X4 | 133.143 | 10.423 | 2.245 | 12.774 | .000 | 112.700 | 153.586 |  |
| 农用化肥施用折纯量(万吨) x5 | -24.080 | 2.459 | -1.021 | -9.794 | .000 | -28.902 | -19.258 |  |
| 农用氮肥施用折纯量^2(万吨^2) x4^2 | .113 | .027 | .310 | 4.153 | .000 | .060 | .167 |  |
| 农用氮肥施用折纯量^2(万吨^2) x5^2 | -4.124 | .397 | -1.562 | -10.386 | .000 | -4.903 | -3.345 |  |
| 播种面积(千公顷) x6 | -0.478 | .030 | -.297 | -16.043 | .000 | -.537 | -.420 |  |
| 温度/K x7 | 84.381 | 11.358 | .654 | 7.429 | .000 | 62.105 | 106.658 |  |
| Near surface wind speed/ m/s x8 | -31.402 | 10.793 | -.044 | -2.910 | .004 | -52.570 | -10.235 |  |
| Near surface air specific humidity/ kg/kg x9 | 96017.247 | 10449.475 | .547 | 9.189 | .000 | 75523.237 | 116511.258 |  |
| Near surface air pressure/Pa x10 | .033 | .006 | .389 | 5.608 | .000 | .021 | .044 |  |
| Surface downward longwave radiation/W/m2 x11 | -15.294 | 1.844 | -1.093 | -8.295 | .000 | -18.910 | -11.678 |  |
| Precipitation rate/ mm/hr x12 | 936.610 | 141.688 | .131 | 6.610 | .000 | 658.725 | 1214.495 |  |
| 风雹灾成灾面积(千公顷) x13 | .052 | .650 | .002 | .081 | .936 | -1.222 | 1.327 |  |
| 旱灾成灾面积(千公顷)x14 | -.432 | .171 | -.072 | -2.529 | .012 | -.767 | -.097 |  |
| 水灾成灾面积(千公顷)x15 | -.263 | .297 | -.031 | -.886 | .376 | -.845 | .319 |  |
| 冷冻灾受灾面积(千公顷)  x16 | .184 | .200 | .021 | .920 | .358 | -.208 | .577 |  |
| 风雹灾受灾面积(千公顷)  x17 | -2.226 | .425 | -.130 | -5.238 | .000 | -3.060 | -1.393 |  |
| 旱灾受灾面积(千公顷)x18 | -.746 | .119 | -.180 | -6.266 | .000 | -.980 | -.513 |  |
| 水灾受灾面积(千公顷)x19 | -1.254 | .194 | -.229 | -6.446 | .000 | -1.635 | -.872 |  |
| 有效灌溉面积(千公顷)x20 | -.865 | .112 | -.325 | -7.705 | .000 | -1.086 | -.645 |  |
| a. 因变量：作物产量(万吨) | | | | | | | | |  |

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| 2）小麦产量预测模型构建  **系数**a | | | | | | | | |
| 模型 | | 未标准化系数 | | 标准化系数 | t | 显著性 | B 的 95.0% 置信区间 | |
|  | | B | 标准错误 | Beta |  |  | 下限 | 上限 |
| 1 | (常量) | 6915.005 | 1196.203 |  | 5.781 | 0 | 4568.642 | 9261.367 |
| 2 | 柴油使用量（万吨） | -4.605 | 0.327 | -0.307 | -14.085 | 0 | -5.247 | -3.964 |
| 3 | 冷冻灾成灾面积(千公顷) | 0.597 | 0.233 | 0.055 | 2.565 | 0.01 | 0.14 | 1.053 |
| 4 | Surface downward shortwave radiation/W/m² | 4.883 | 0.349 | 0.449 | 14.005 | 0 | 4.199 | 5.567 |
| 5 | 农用氮肥施用折纯量(万吨) | -67.355 | 4.393 | -2.947 | -15.331 | 0 | -75.973 | -58.737 |
| 6 | 农用化肥施用折纯量(万吨) | 14.541 | 1.199 | 1.591 | 12.123 | 0 | 12.188 | 16.893 |
| 7 | 农用氮肥施用折纯量^2(万吨^2) | 1.885 | 0.17 | 1.845 | 11.072 | 0 | 1.551 | 2.219 |
| 8 | 农用化肥施用折纯量^2(万吨^2) | -0.121 | 0.013 | -0.856 | -9.542 | 0 | -0.146 | -0.096 |
| 9 | 播种面积(千公顷) | 0.643 | 0.033 | 0.907 | 19.241 | 0 | 0.577 | 0.709 |
| 10 | Temp/K | -32.064 | 4.984 | -0.537 | -6.433 | 0 | -41.841 | -22.288 |
| 11 | Near surface wind speed/ m/s | 15.142 | 4.7 | 0.052 | 3.222 | 0.001 | 5.924 | 24.361 |
| 12 | Near surface air specific humidity/ kg/kg | -49147.446 | 5198.798 | -0.574 | -9.454 | 0 | -59344.933 | -38949.959 |
| 13 | Near surface air pressure/Pa | -0.012 | 0.002 | -0.357 | -5.138 | 0 | -0.016 | -0.007 |
| 14 | Surface downward longwave radiation/W/m² | 9.875 | 0.88 | 1.446 | 11.216 | 0 | 8.148 | 11.602 |
| 15 | Precipitation rate/ mm/hr | -199.38 | 66.149 | -0.057 | -3.014 | 0.003 | -329.132 | -69.627 |
| 16 | 风雹灾成灾面积(千公顷) | 0.4 | 0.284 | 0.037 | 1.407 | 0.16 | -0.158 | 0.957 |
| 17 | 旱灾成灾面积(千公顷) | -0.413 | 0.076 | -0.171 | -5.411 | 0 | -0.563 | -0.264 |
| 18 | 水灾成灾面积(千公顷) | 0.061 | 0.141 | 0.016 | 0.434 | 0.665 | -0.215 | 0.337 |
| 19 | 冷冻灾受灾面积(千公顷) | -0.102 | 0.09 | -0.025 | -1.131 | 0.258 | -0.278 | 0.075 |
| 20 | 风雹灾受灾面积(千公顷) | 0.232 | 0.183 | 0.034 | 1.264 | 0.206 | -0.128 | 0.591 |
| 21 | 旱灾受灾面积(千公顷) | 0.497 | 0.054 | 0.298 | 9.26 | 0 | 0.392 | 0.602 |
| 22 | 水灾受灾面积(千公顷) | 0.436 | 0.09 | 0.176 | 4.828 | 0 | 0.259 | 0.614 |
| 23 | 有效灌溉面积(千公顷) | 0.222 | 0.076 | 0.202 | 2.938 | 0.003 | 0.074 | 0.37 |
| a. 因变量：作物产量(万吨) | | | | | | | | |
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