**Cover crops**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2018** | **2018** | **2018** | **2019** | **2019** | **2019** |
| **Cover crop treatment** | **Planting date** | **GDDs accumulated at xxx sampling** | **CC biomass at sampling (Mg ha-1)** | **Planting date** | **GDDs accumulated at xxx sampling** | **CC biomass at sampling** |
| **No cover crop** | **NA** | **NA** |  | **NA** | **NA** |  |
| **Early planted mix** |  | **3079** | **235** |  | **2859** | **688** |
| **Mid-season planted mix** |  | **1758** | **26.2** |  | **1311** | **203** |
| **Mid-season planted radish** |  | **1758** | **1950** |  | **1311** | **793** |
| **After-harvest planted radish** |  | **1033** | **443** |  | **612** | **223** |

**Grain yields**

Crop yields ranged from 1.7 to 5.6, 2.4 to 5.4, and 1.7 to 5.8 Mg ha-1 in spring barley, oat, and faba bean, respectively. Grain yields varied significantly by crop (p < 0.01), but without interacting with any other factors (p-values ranging from 0.10 to 0.95). The impact of tillage depended on the straw management (p < 0.01). The no-till treatment yielded an average of 0.47 (SE:0.10) Mg ha-1 less than the tillage treatments when straw was removed, but all tillage treatments yielded the same when straw was retained. The cover crop treatment had no significant interactions with other factors (p-values ranging from x to x) but had a significant effect on crop yields (p < 0.01). The early-planted mix had the lowest absolute yields (3.82 Mg ha-1, SE:0.16) while the mid-season planted radish had the highest (4.20 Mg ha-1, SE:0.16). Both mixes yielded significantly less than the mid-season planted radish by an average of 0.36 Mg ha-1 (SE:0.09), but no cover crop treatment was significantly different from the control.