

Variety trial report (pretrial)

Crop: SPRING PEAS
 Year of trial establishment: 2024
 Trial harvest year: 2024
 Test place (locality): Ivanovice na Hané
 Production type, subtype: Sugar beet type, barley subtype
 District: Vyškov
 Region: South Moravia
 Post office and address number: Ivanovice na Hané 68323

General data

Experimental hunt: sowing procedure. 6-hundred.....hunt number. Altitude....245 m
 Location: slope, exposure, evenness of the land... straight, level hunting.....

Soil: type, subtype, substrate.. black earth degraded on loess.....
 topsoil: type.....granulation..... depth cm...40.....
 scum: species.....granulation..... depth cm.....
 degree of soil sorption saturation (V,S,T values) groundwater level at a depth of cm.....

Climate: annual precipitation norm: 546.13 mm, annual temperature norm. 9.80 °C

Pre-crops and fertilization for them:

| Year | Pre-crops | Dose Pure Nutri kg/ha | | | | | Other | Type | Qua | t/ha |
|--|---------------|-----------------------|------------|----------|-----------|------------|---------------|-------------------|-----|------|
| | | N | P | K | Mg | Ca | | | | |
| 2021 | corn | 120 | | | | | | | | |
| 2022 | Spring Barley | 50 | | | | | | | | |
| 2023 | Autumn Wheat | 120 | | | | | | | | |
| Nutrient supply in the soil (according to the analysis of the day) 14/5 2024 | | N 0,231 | P 126,1 | K 365 | Mg 246 | Ca 4478 | Humus 3,10 | PH KCl 6,61 | | |

Preparation of the trial plot: (type of work, number of operations, date)

- 14/8 2023 - subject
- 8/11 - medium plowing
- 18/3 2024 - pre-grid preparation with a compactor 2x
- 19/3 - sowing of HJ
- 3/4 - NPK fertilization
- 9/4 - spraying DECIS FORTE insecticide 75ml/ha in 200 l of water
- 13/4 - spraying - herbicide ESCORT NEW 3 l/ha
- DECIS FORTE insecticide 75ml/ha per 300 l of water
- 15/5 - spraying - RAPID insecticide 0.08 l/ha per 200 l of water
- 11/7 2024 - harvesting with a Hege small plot combine

Experiment scheme - distribution of repetitions and experimental members according to reality:

| <u>Spring Peas (nr. 1 –3)</u> | | | | | | | | | |
|---------------------------------|---|---|---|---|---|---|---|---|-----|
| <u>B</u> | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| <u>A</u> | 0 | 1 | 2 | 3 | 0 | 2 | 3 | 1 | 0 C |

- Dimensions of harvester: .5 x 2
- Dimensions of separation spaces and margins
- net length m.....5
- width of separation gap - transverse 3 m
- net width m.....2longitudinal 0.3 m in parts, L L 2 m
- net harvest area m.....10 m2.....
- length of edges - front m 6 m and back m 6 m
- Number of rows...16.....distance.cm...12.5.....
- Number of repetitions 3

Trial seeding - date: .19.3.2024

Method (how and by what) carried seeding machine Ojord

Soil condition at sowing (moisture, structure) soil dry, soil structure good

11/7 2024 - harvesting with a Hege small plot combine

Agrotechnical interventions after sowing (mechanical and chemical treatment of the trial - date, type of work, number of operations, product and dosage)

3/4 - NPK fertilization

9/4 - spraying DECIS FORTE insecticide 75ml/ha in 200 l of water

13/4 - spraying - herbicide ESCORT NEW 3 l/ha

- DECIS FORTE insecticide 75ml/ha per 300 l of water

15/5 - spraying - RAPID insecticide 0.08 l/ha per 200 l of water

11/7 2024 - harvesting with a Hege small plot combine

A brief description of the course of the weather from autumn to the harvest of the experiment 2023-2024

IX. 2023

was extremely above average in terms of temperature and extremely below average in terms of precipitation. (Average temperature $+18.05^{\circ}\text{C}$!!! compared to $+14.91^{\circ}\text{C}$ 20.l average, precipitation 22.2 mm !! compared 51.22 mm 20.l average). All decades were above average in temperature - 1st decade: $+18.18^{\circ}\text{C}$ and especially 2nd decade: $+18.87^{\circ}\text{C}$ and 3rd decade also strongly above average $+17.09^{\circ}\text{C}$. Only 0.3 mm of precipitation fell in the 1st decade, 18.6 mm in the 2nd decade and only 3.3 mm in the 3rd decade. The maximum temperatures in the individual decades were 10/9 $+28.2^{\circ}\text{C}$, 12/9 $+29.2^{\circ}\text{C}$ and 26/9 $+26.7^{\circ}\text{C}$. Minimum temperatures and ground minimums were also high – the minimum was 26/9 $+8.8^{\circ}\text{C}$ and the ground minimum was also 26/9 $+8.3^{\circ}\text{C}$. There were only 8 days with precipitation, of which only 2 days were above 5 mm. There were no days with ground frost.

X. 2023

was strongly above average in terms of temperature and above average in terms of precipitation ($+12.65^{\circ}\text{C}$ versus $+9.44^{\circ}\text{C}$ 20. l- average, rainfall 48.4 mm versus 36.51 mm 20. l- average). All three decades were strongly above average in temperature, extremely in the 1st decade the average daily temperature was 13.99°C !!!, in the second 11.88°C and in the third also a high 12.14°C . The maximum temperature was in the 1st decade 3/10 $+24.4^{\circ}\text{C}$, in the 2nd 13/10 $+24.0^{\circ}\text{C}$ and in the 3rd 21/10 $+23.1^{\circ}\text{C}$. The minimum temperature was -1.4°C in the 2nd decade of 18/10. The ground minimum temperature was $+5.3^{\circ}\text{C}$ in the 1st decade 6/10, -4.1°C in the 2nd decade 18/10, $+2.9^{\circ}\text{C}$ in the 3rd decade 23/10. 10.2 mm of precipitation fell in the 1st decade, 6.5 mm in the 2nd decade, and an above-average 31.7 mm in the 3rd decade. There were 17 days with precipitation. In the 1st and 2nd decade, one day each with precipitation above 5 mm, in the 3rd decade 2 days with 5 mm. Less than half of the monthly rainfall total fell on 27/10, namely 22.9 mm. There were 4 days with a ground freezer, from 10/16 to 10/19.

XI. 2023

it was almost average in temperature with huge differences between decades and strongly above average in precipitation (+5.20°C versus +5.09°C in the 20th I- average, precipitation 49.6 mm in contrast to 30.02 mm in the 20th I- average). In terms of temperature, the 1st decade was very strongly above average +8.88°C, the 2nd decade slightly above average +5.6°C and the 3rd decade very strongly below average +1.12°C... 26.8 mm fell in the 1st decade precipitation., in the 2nd decade 13.0 mm and in the 3rd decade 9.8 mm. The maximum temperature was in the 1st decade 2/11 : 16.0°C. in the 2nd decade 14/11 : 16.0°C. in the 3rd decade 24/11 : 8.6°C. The minimum temperature was 29/11: -7.1°C. The ground minimum temperature was in the 3rd decade 29/11 -7.8°C, in the 2nd decade 13/11 -4.4°C and in the 1st decade 9/11 -2.3°C. There were 22 days with precipitation, of which only 1 day exceeded 5 mm. There were 13 days with ground frosts. There was no snow cover.

XII. 2023

was very strongly above average in terms of temperature and extremely above average in precipitation (+2.16°C compared to + 0.62°C 20. I- average, precipitation 63.6 mm !! compared 24.97 mm 20. I- average.). Temperature strongly below average: 1st decade -1.24°C, 2nd decade +2.60°C and 3rd decade extremely above average +4.84°C !! 26.0 mm of precipitation fell in the 1st decade, 10.0 mm in the 2nd decade, 27.6 mm in the 3rd decade. The maximum temperature was in the 1st decade 7/12 +2.5°C, in the 2nd 16/12 +8.6°C, in the 3rd decade 30/12 + 12.3°C !! The minimum temperature was in the 1st decade: 4/12: -9.2°C, in the 2nd decade: 19/12: -3.2°C, in the 3rd decade: 31/12: -1.2°C. Ground minimum temperature in the 1st decade 4/12 : -9.8°C, in the 2nd decade 12/19 : -4.9°C and in the 3rd decade 12/31 : -4.1°C . There were 17 days with precipitation. There were 27 days (10,8,9) with ground frosts. The snow cover was from 1/12 to 11/12 (15 – 5 cm) and 23/12 – 24/12 2023 (3 – 1 cm).

I. 2024

was above average in temperature and strongly above average in precipitation (-0.04 °C versus -0.93 °C of the 20-year average, precipitation 43.4 mm versus 29.61 mm of the 20-year average).

The 1st and 3rd decades were above average in temperature, the 2nd decade was below average: 1st decade -0.32°C, 2nd decade -1.47°C, 3rd decade +1.51°C. The maximum temperature was 3/1 +10.7°C, 2nd decade 18/1 +4.1°C and 3rd decade 24/1 +10.0°C. Minimum temperatures in individual decades 10/1 2024 -14.6°C, 11/1 -13.2°C and 21/1 -9.0°C . Minimum ground temperatures in individual decades 10/1 2024 -17.3°C, 11/1 -15.9°C and 21/1 -10.7°C . There were 27 days with ground frosts (7, 10 and 10 days) and 13 days with precipitation, of which over 5 mm on 4 days. The snow was only between 6-11/1 (only 1-3 cm) of 6 days of continuous snow cover.

II. 2024

was hyper extremely above average in temperature and average in precipitation (+6.96°C !!!!! compared to +0.64°C 20.-l. average, precipitation 28.4 mm compared to 26.22 mm 20.-l. average). In all decades, the average temperatures were similarly extreme: 1st decade +7.04°C, 2nd decade +6.24°C and 3rd decade the highest average temperature 7.66°C !!!!!

Precipitation evenly: 10.4 mm in the 1st decade, 7.1 mm in the 2nd decade and 10.9 mm in the 3rd decade. In the 3rd decade, 1x precipitation above 5 mm (8.5 mm). The maximum temperature was in the 3rd decade 27/2 +15.7°C, in the 1st decade 10/2 +13.9°C and in the 2nd decade 11/2 +14.2°C Minimum temperatures of the decades: 1. +0.2°C 1/2, 2. -2.6°C 14/2 and 3. -0.1°C 25/2, minimum ground 1st decade -2.6°C 2/2, 2. -5.8°C 14/2 and 3. -2.4°C 25/2. In February, there were 14 days with ground frost (5, 6, 3 days) and 14 days with precipitation, of which 1 day was above 5 mm. There was no continuous snow cover.

III. 2024

was hyper extremely above average in terms of temperature and average in precipitation (+8.64°C !!! compared to +4.45°C, precipitation 31.2 mm compared to 29.70 mm of the 20th-year average). In terms of temperature, all decades are hyper extremely above average 1st decade +7.65°C, 2nd +7.25°C, 3rd +10.82°C. The maximum temperatures were in the 1st decade +16.6 °C 4/3, in the 2nd +18.1°C 16/3 and in the 3rd decade +21.6°C 31/3. There were 11 days with ground frost (3, 4 and 4 days in individual decades), 11 days with precipitation, of which 8 days were up to 5 mm, 2 days over 5 mm of precipitation (11-12/3 22.2 mm). Precipitation in individual decades: 1.7 mm, 22.9 mm and 6.6 mm. Minimum temperatures in individual decades were 8/3 +1.1°C, 20/3 -4.3°C and 26/3 -2.7°C. Minimum ground temperatures of individual decades: 4/3 -1.5°C, 20/3 -6.1°C, 26/3 -2.7°C. There was not even 1 day with snow in March.

IV. 2024

was above average in temperature and average in precipitation (+11.61°C compared to +10.17°C in the 20th year average, precipitation 29.1 mm compared to 30.73 mm in the 20th year average. The temperature was strongly above average in 1. decade +14.65°C, 2nd and 3rd decade average 10.4°C and 12 days with precipitation over 5 mm according to decades: 17.1 mm, 7.8 mm, 4.2 mm. The maximum temperatures were in decades: 7/4 +26.3°C !!!, 2. 14/4 +24.6°C !! and 29/4 +25.4°C !!, minimum temperatures 3/4 +5.3°C, 19/4 -1.0°C and minimum ground temperatures 26/4 temperatures in individual decades 1. 3/4 +3.3°C, 2. 19/4 -4.1°C and 3. 26/4 -3.7°C. Number of days with ground frost 6 (individual decades: 0.2.4 mm There was no snow in April.

V. 2024

was slightly above average in temperature and below average in terms of precipitation (+16.35°C compared to +14.41°C 20. l- average, precipitation 61.6 mm compared to 65.95 mm 20. l- average). Average temperatures were above average in the 1st, 2nd and 3rd decade: +15.46°C and +15.86°C and 17.61°C. Precipitation in the 1st and 2nd decade weak: 4.2 mm and 7.0 mm, in the

3rd decade maximum: 50.4 mm (24.5. 20.6 mm). The maximum temperature was in the 1st decade 4/5 +24.9°C, in the 2nd 20/5 +25.6°C and in the 3rd 27/5 +25.9°C, the minimum temperature was 10/5 + 4.2°C and ground minimum in the 1st decade 10/5 +1.5°C, in the 2nd 13/5 +4.6°C and in the 3rd 23/5 +10.2°C. There was no ground frost day in May. There were 12 days with precipitation, of which in the 1st decade 4 below 5 mm, in the 2nd decade 2 days and in the 3rd decade 4 days above 5 mm of precipitation. The wind and the first storms did not damage the stands.

VI. 2024

was slightly above average in terms of temperature and extremely above average in terms of precipitation (19.39°C versus 18.68°C of the 20-year average, precipitation 269.8 mm versus 84.37 mm of the 20-year average). The 3rd decade was above average at +21.82°C, the 1st and 2nd decade were below average at +18.01°C and 18.34°C. There were 19 days with precipitation, of which there were 10 days with precipitation above 5 mm, in individual decades 107.9 mm, 43.1 mm and 118.8 mm. June was without ground frost. Maximum temperatures of individual decades: 8/6 +27.0°C, 19/6 +30.6°C and 30/6 +32.6°C. Minimum temperature 14/6 + 7.4°C and minimum ground temperature 14/6 + 6.1°C. A few thunderstorms accompanied by strong winds caused the vegetation to partially lie down.

VII.2024

it was quite above average in terms of temperature (about 2°C) and significantly below average in terms of precipitation (temperature +22.12°C versus +20.48°C 20. l- average, precipitation 36.6 mm against 68.86 mm 20. l- average). All 3 decades were above average in temperature, 1st decade +21.8°C, 2nd decade +23.39°C and 3rd +21.91°C. Precipitation was fairly evenly distributed in all decades - 1st decade 10.5 mm, 2nd decade 11.6 mm and in the 3rd decade 14.5 mm. In each decade there was at least 1 precipitation higher than 5 mm: 1. 7/7 5.6 mm, 2. 12/7 10.7 mm and 3. 22/7 8.3 mm. The maximum temperature was in the 1st decade 10/7 +34°C, in the 2nd 16/7 +32.4°C and in the 3rd decade 27/7 +32.2°C, the minimum temperature was 30/7 +10.2°C and the ground minimum also 30/7 +8.4°C. There were 10 days with precipitation, of which 4 days were over 5 mm. Storms and wind did not cause any serious damage.

Trial evaluation

The seed were sown on 3/19/2024. The plants emerged uniformly in early April. Both April and May were normal in terms of precipitation, temperatures slightly above the long-term average, and the vegetation was developing well.

In June, however, there were several heavy showers, on 30/06/2024 even a very strong thunderstorm (75 mm, with hail). The stands completely lay down without any difference of variants and the harvest was very difficult. The harvest was on 7/11/2024.

The tested products were applied twice (18.4.2024 and 30.5.2024) during the growing season in a dose according to the methodology. Fertilization took place immediately after emergence in doses according to the methodology. During the growing season, there was no visible difference between the variants, both in development and in disease incidence. Of the diseases, fusaria and powdery mildew occurred, but only in an average attack intensity.

In terms of yield, option 3 was the best - reduced dose of N fertilization (70%) + application of Microfertile and Ekofertile, both in 5% concentration, which exceeded the control variant by 13.9%

Place: Ivanovice na Hané

date : 6.8.2024

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