

# Laverie Beni Amir

OCP khouribgra

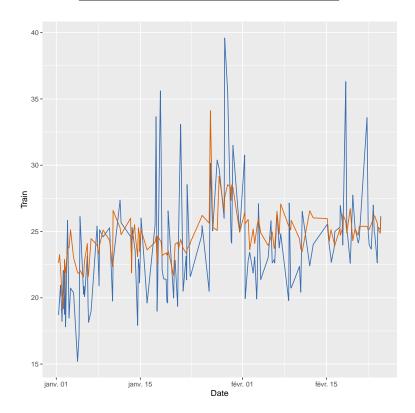
# **Chapitre 1**

## **Les Fines Classification**

### 1.1 Fines Jointure SDP Mean entre deux SDP

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b580ffec0>
```

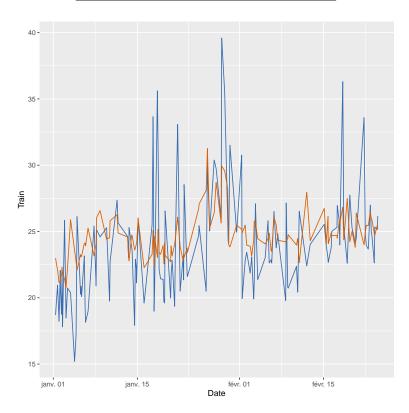
	Methode	R2_test	R2_train
1	Decision Tree	0.20	0.49
2	Bagged Trees	0.23	0.65
3	Random Forest	0.27	0.92
4	GBM	0.24	0.80
5	XGB	0.19	0.98
6	ANN	0.05	0.62
7	Moyenne totale	0.20	0.75



### 1.2 Fines Jointure SDP Max entre deux SDP

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b50457998>
```

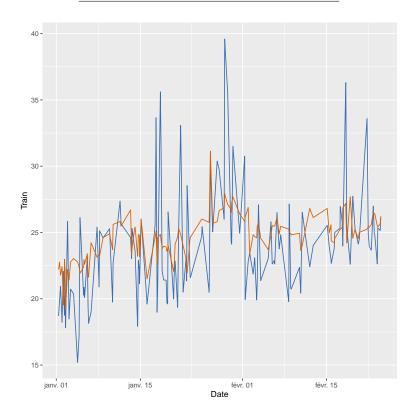
	Methode	R2_test	R2_train
1	Decision Tree	0.12	0.50
2	Bagged Trees	0.25	0.60
3	Random Forest	0.25	0.89
4	GBM	0.23	0.78
5	XGB	0.24	0.96
6	ANN	0.00	0.61
7	Moyenne totale	0.18	0.72



### 1.3 Fines Jointure SDP Median entre deux SDP

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b5629dce8>
```

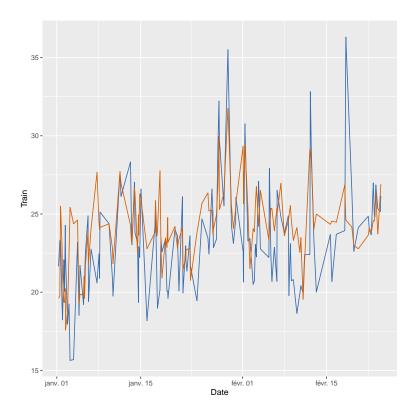
	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.47
2	Bagged Trees	0.24	0.61
3	Random Forest	0.29	0.89
4	GBM	0.26	0.77
5	XGB	0.12	0.98
6	ANN	0.01	0.46
7	Moyenne totale	0.17	0.70



### 1.4 Fines Jointure SDP Mean 60 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b526f3ba0>
```

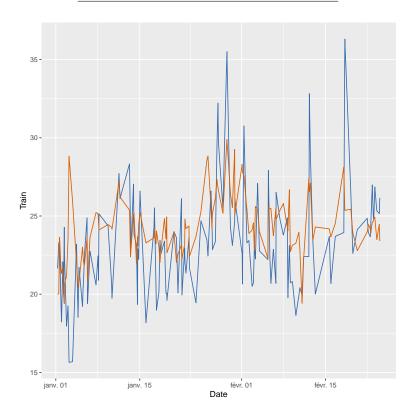
	Methode	R2_test	R2_train
1	Decision Tree	0.14	0.52
2	Bagged Trees	0.24	0.69
3	Random Forest	0.24	0.92
4	GBM	0.26	0.83
5	XGB	0.15	0.99
6	ANN	0.04	0.52
7	Moyenne totale	0.18	0.75



### 1.5 Fines Jointure SDP Max 60 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b562c2af8>
```

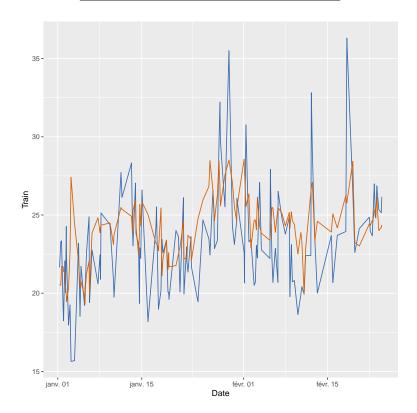
	Methode	R2_test	R2_train
1	Decision Tree	0.13	0.54
2	Bagged Trees	0.16	0.65
3	Random Forest	0.18	0.92
4	GBM	0.17	0.81
5	XGB	0.10	0.98
6	ANN	0.08	0.53
7	Moyenne totale	0.14	0.74



### 1.6 Fines Jointure SDP Median 60 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b53681de8>
```

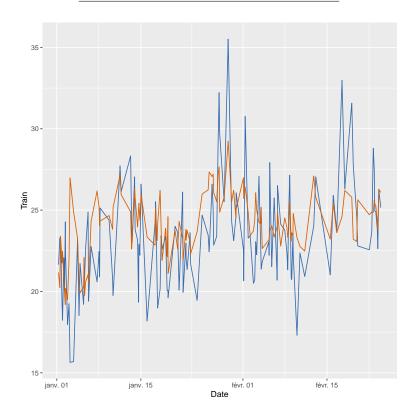
	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.49
2	Bagged Trees	0.18	0.65
3	Random Forest	0.20	0.92
4	GBM	0.19	0.81
5	XGB	0.18	0.97
6	ANN	0.01	0.55
7	Moyenne totale	0.14	0.73



### 1.7 Fines Jointure SDP Mean 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b570117d0>
```

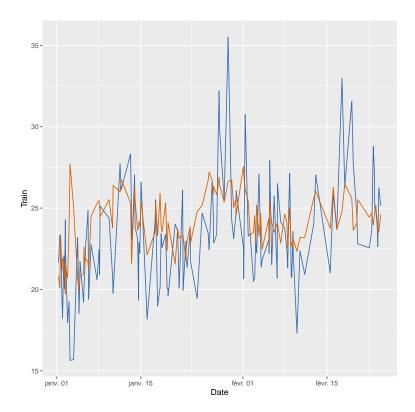
	Methode	R2_test	R2_train
1	Decision Tree	0.06	0.48
2	Bagged Trees	0.14	0.66
3	Random Forest	0.21	0.92
4	GBM	0.20	0.82
5	XGB	0.05	0.97
6	ANN	0.00	0.57
7	Moyenne totale	0.11	0.74



### 1.8 Fines Jointure SDP Max 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b5209ebb0>
```

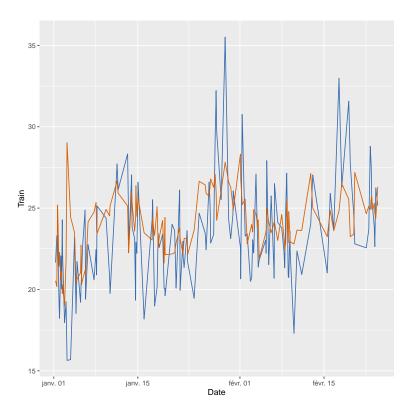
	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.52
2	Bagged Trees	0.14	0.63
3	Random Forest	0.16	0.91
4	GBM	0.14	0.82
5	XGB	0.02	0.97
6	ANN	0.03	0.51
7	Moyenne totale	0.10	0.73



### 1.9 Fines Jointure SDP Median 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b55fb8c28>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.11	0.50
2	Bagged Trees	0.13	0.67
3	Random Forest	0.16	0.91
4	GBM	0.13	0.82
5	XGB	0.09	0.97
6	ANN	0.03	0.55
7	Moyenne totale	0.11	0.74



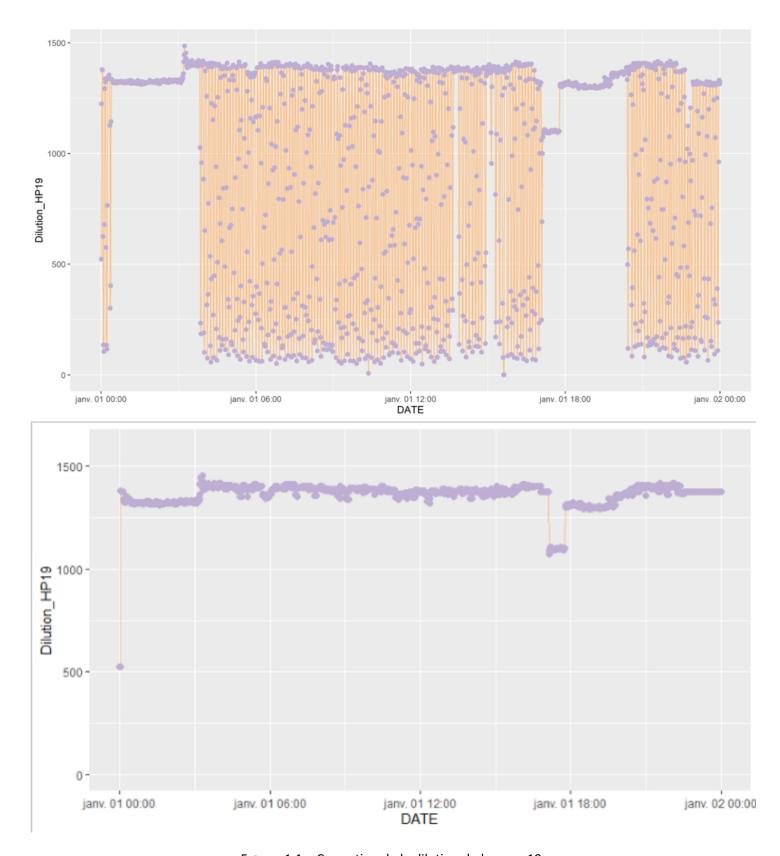
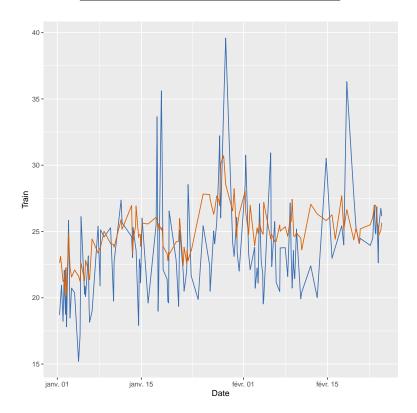


FIGURE 1.1 – Correction de la dilution du hopper 19

### 1.10 Fines Jointure SDP Mean entre deux SDP

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x0000024b5216f4c8>
```

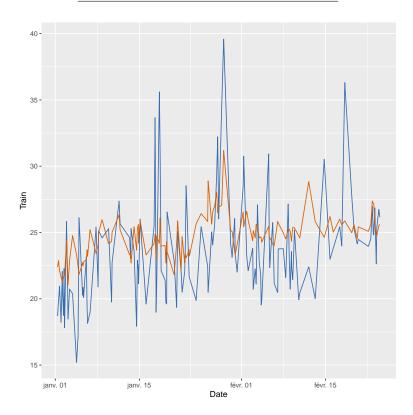
	Methode	R2_test	R2_train
1	Decision Tree	0.17	0.48
2	Bagged Trees	0.24	0.64
3	Random Forest	0.27	0.93
4	GBM	0.26	0.82
5	XGB	0.12	0.97
6	ANN	0.12	0.55
7	Moyenne totale	0.20	0.73



### 1.11 Fines Jointure SDP Max entre deux SDP

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x0000024b4fb51038>
```

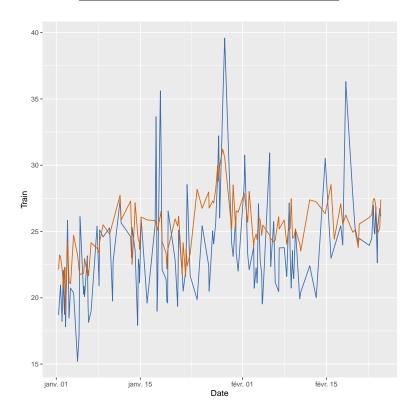
	Methode	R2_test	R2_train
1	Decision Tree	0.08	0.48
2	Bagged Trees	0.18	0.60
3	Random Forest	0.25	0.91
4	GBM	0.23	0.78
5	XGB	0.13	0.97
6	ANN	0.07	0.56
7	Moyenne totale	0.16	0.72



### 1.12 Fines Jointure SDP Median entre deux SDP

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b505903f8>
```

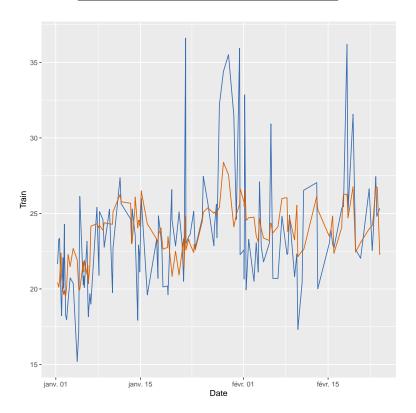
	Methode	R2_test	R2_train
1	Decision Tree	0.07	0.42
2	Bagged Trees	0.21	0.62
3	Random Forest	0.24	0.92
4	GBM	0.28	0.80
5	XGB	0.13	0.97
6	ANN	0.04	0.57
7	Moyenne totale	0.16	0.71



### 1.13 Fines Jointure SDP Mean 60 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b5610b340>
```

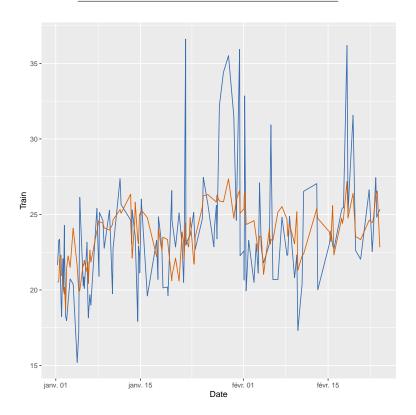
	Methode	R2_test	R2_train
1	Decision Tree	0.12	0.50
2	Bagged Trees	0.27	0.68
3	Random Forest	0.25	0.93
4	GBM	0.25	0.85
5	XGB	0.18	0.98
6	ANN	0.07	0.65
7	Moyenne totale	0.19	0.77



### 1.14 Fines Jointure SDP Max 60 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x0000024b60661510>
```

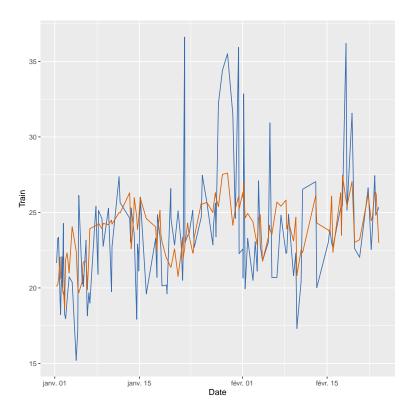
	Methode	R2_test	R2_train
1	Decision Tree	0.11	0.56
2	Bagged Trees	0.24	0.68
3	Random Forest	0.26	0.93
4	GBM	0.23	0.83
5	XGB	0.11	0.97
6	ANN	0.03	0.55
7	Moyenne totale	0.16	0.76



### 1.15 Fines Jointure SDP Median 60 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b50456680>
```

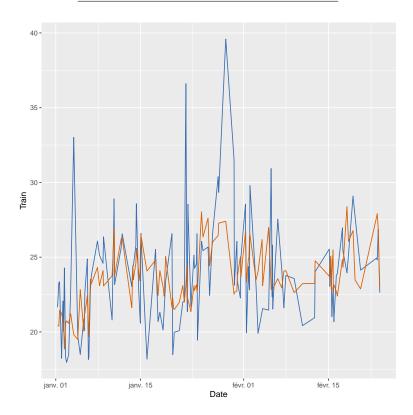
	Methode	R2_test	R2_train
1	Decision Tree	0.23	0.57
2	Bagged Trees	0.22	0.68
3	Random Forest	0.23	0.93
4	GBM	0.21	0.84
5	XGB	0.09	0.97
6	ANN	0.00	0.57
7	Moyenne totale	0.16	0.76



### 1.16 Fines Jointure SDP Mean 10 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x0000024b4ff0b438>
```

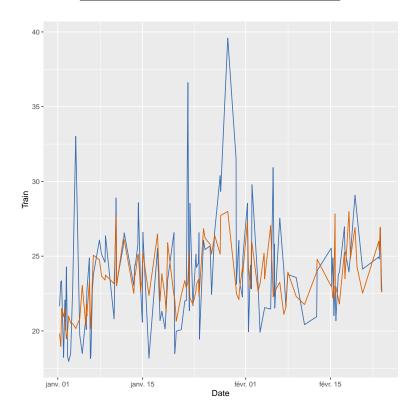
	Methode	R2_test	R2_train
1	Decision Tree	0.11	0.53
2	Bagged Trees	0.18	0.67
3	Random Forest	0.14	0.94
4	GBM	0.14	0.87
5	XGB	0.04	0.99
6	ANN	0.02	0.70
7	Moyenne totale	0.10	0.78



### 1.17 Fines Jointure SDP Max 10 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b50ad2e78>
```

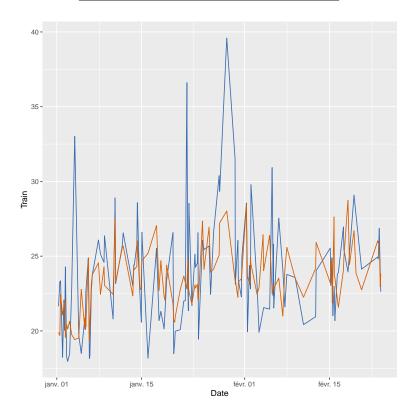
	Methode	R2_test	R2_train
1	Decision Tree	0.18	0.55
2	Bagged Trees	0.17	0.64
3	Random Forest	0.16	0.94
4	GBM	0.21	0.84
5	XGB	0.07	0.98
6	ANN	0.03	0.63
7	Moyenne totale	0.14	0.76



### 1.18 Fines Jointure SDP Median 10 minutes

```
## X40µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b50457260>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.15	0.59
2	Bagged Trees	0.17	0.70
3	Random Forest	0.15	0.93
4	GBM	0.17	0.85
5	XGB	0.09	0.97
6	ANN	0.00	0.67
7	Moyenne totale	0.12	0.79



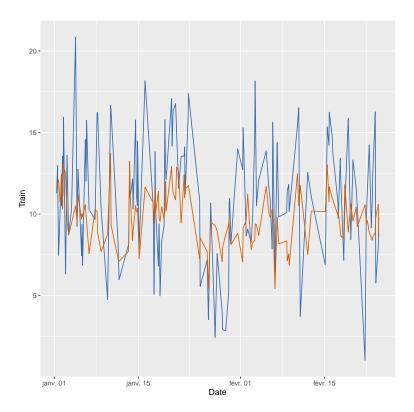
## **Chapitre 2**

### **Les Gros Classification**

### 2.1 Gros Jointure SDP Mean entre deux SDP

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b51f18038>
```

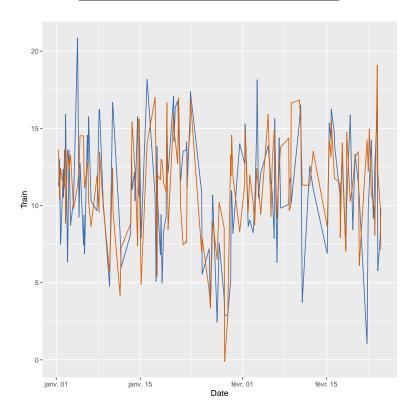
	Methode	R2_test	R2_train
1	Decision Tree	0.00	0.54
2	Bagged Trees	0.09	0.63
3	Random Forest	0.11	0.91
4	GBM	0.14	0.82
5	XGB	0.03	0.98
6	ANN	0.00	0.41
7	Moyenne totale	0.06	0.72



### 2.2 Gros Jointure SDP Max entre deux SDP

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b53c42140>
```

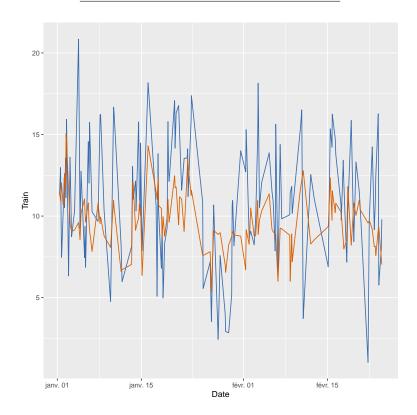
	Methode	R2_test	R2_train
1	Decision Tree	0.01	0.53
2	Bagged Trees	0.08	0.62
3	Random Forest	0.10	0.90
4	GBM	0.11	0.81
5	XGB	0.16	0.97
6	ANN	0.00	0.54
7	Moyenne totale	0.08	0.73



### 2.3 Gros Jointure SDP Median entre deux SDP

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b53489e30>
```

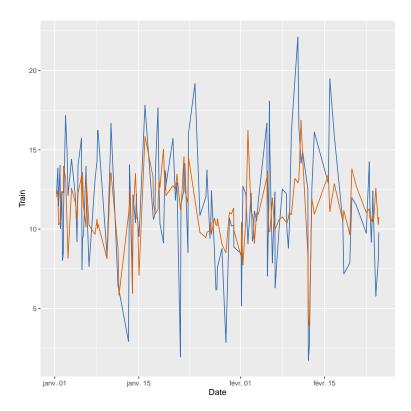
	Methode	R2_test	R2_train
1	Decision Tree	0.02	0.51
2	Bagged Trees	0.08	0.63
3	Random Forest	0.10	0.89
4	GBM	0.16	0.79
5	XGB	0.06	0.97
6	ANN	0.00	0.56
7	Moyenne totale	0.07	0.72



### 2.4 Gros Jointure SDP Mean 60 minutes

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b4ef24170>
```

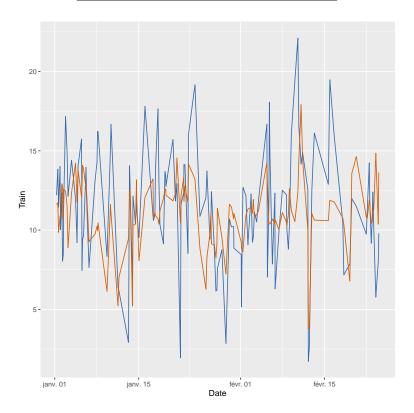
	Methode	R2_test	R2_train
1	Decision Tree	0.06	0.47
2	Bagged Trees	0.17	0.67
3	Random Forest	0.19	0.92
4	GBM	0.18	0.83
5	XGB	0.09	0.97
6	ANN	0.03	0.48
7	Moyenne totale	0.12	0.72



### 2.5 Gros Jointure SDP Max 60 minutes

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b5026b028>
```

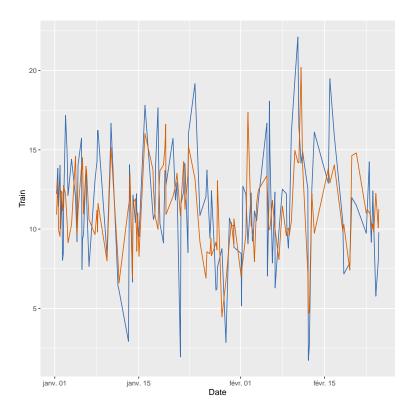
	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.55
2	Bagged Trees	0.20	0.68
3	Random Forest	0.18	0.91
4	GBM	0.15	0.83
5	XGB	0.04	0.97
6	ANN	0.03	0.49
7	Moyenne totale	0.12	0.74



### 2.6 Gros Jointure SDP Median 60 minutes

```
## X250µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b534ed6d0>
```

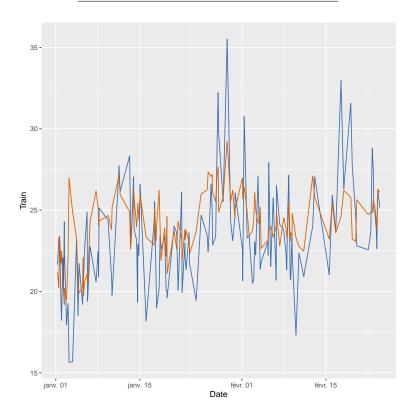
	Methode	R2_test	R2_train
1	Decision Tree	0.07	0.48
2	Bagged Trees	0.16	0.64
3	Random Forest	0.20	0.90
4	GBM	0.21	0.82
5	XGB	0.11	0.97
6	ANN	0.05	0.59
7	Moyenne totale	0.13	0.73



### 2.7 Gros Jointure SDP Mean 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b50b029e0>
```

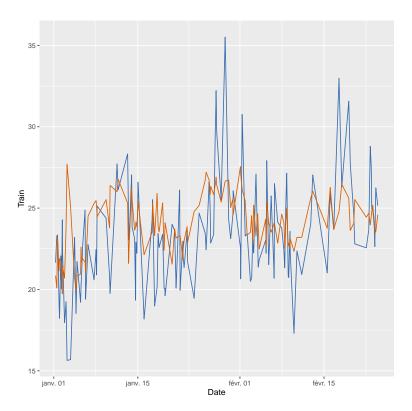
	Methode	R2_test	R2_train
1	Decision Tree	0.06	0.48
2	Bagged Trees	0.14	0.66
3	Random Forest	0.21	0.92
4	GBM	0.20	0.82
5	XGB	0.05	0.97
6	ANN	0.00	0.57
7	Moyenne totale	0.11	0.74



### 2.8 Gros Jointure SDP Max 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x0000024b51699178>
```

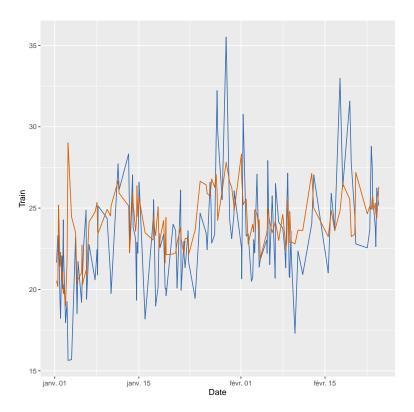
Methode	R2_test	R2_train
Decision Tree	0.10	0.52
Bagged Trees	0.14	0.63
Random Forest	0.16	0.91
GBM	0.14	0.82
XGB	0.02	0.97
ANN	0.03	0.51
Moyenne totale	0.10	0.73
	Decision Tree Bagged Trees Random Forest GBM XGB ANN	Decision Tree 0.10 Bagged Trees 0.14 Random Forest 0.16 GBM 0.14 XGB 0.02 ANN 0.03



### 2.9 Gros Jointure SDP Median 10 minutes

```
## X40µm ~ Poste + Qualité + Débit_CV004 + Dilution_SB002 + Arrosage_Crible_SC003 +
## Dilution_HP14 + Dilution_HP15 + Dilution_HP18 + Dilution_HP19 +
## Pression_PK12 + Pression_PK13 + Pression_PK14 + Pression_PK16 +
## Pression_PK18
## <environment: 0x00000024b53f95088>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.11	0.50
2	Bagged Trees	0.13	0.67
3	Random Forest	0.16	0.91
4	GBM	0.13	0.82
5	XGB	0.09	0.97
6	ANN	0.03	0.55
7	Moyenne totale	0.11	0.74



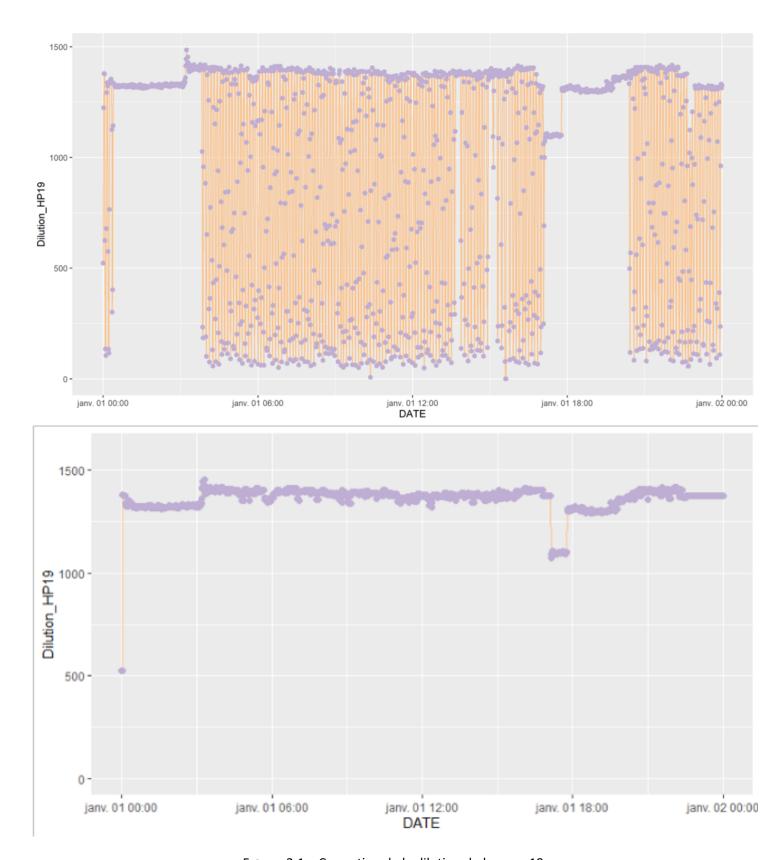
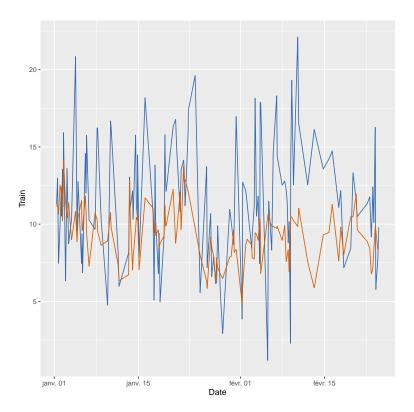


FIGURE 2.1 – Correction de la dilution du hopper 19

### 2.10 Gros Jointure SDP Mean entre deux SDP

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b53a09948>
```

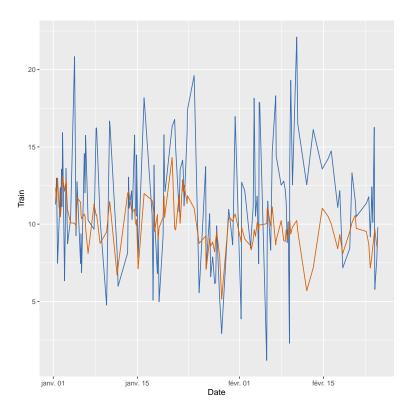
	Methode	R2_test	R2_train
1	Decision Tree	0.01	0.50
2	Bagged Trees	0.05	0.66
3	Random Forest	0.10	0.92
4	GBM	0.11	0.84
5	XGB	0.07	0.97
6	ANN	0.01	0.64
7	Moyenne totale	0.06	0.76



### 2.11 Gros Jointure SDP Max entre deux SDP

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b501f38a8>
```

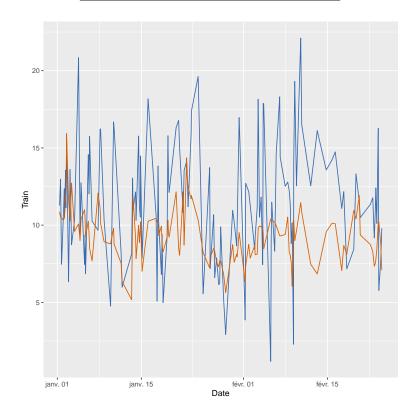
	Methode	R2_test	R2_train
1	Decision Tree	0.02	0.46
2	Bagged Trees	0.04	0.62
3	Random Forest	0.10	0.91
4	GBM	0.08	0.82
5	XGB	0.06	0.96
6	ANN	0.00	0.66
7	Moyenne totale	0.05	0.74



### 2.12 Gros Jointure SDP Median entre deux SDP

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x0000024b506772e8>
```

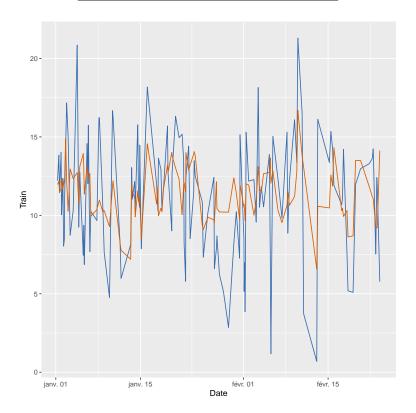
	Methode	R2_test	R2_train
1	Decision Tree	0.05	0.50
2	Bagged Trees	0.04	0.64
3	Random Forest	0.10	0.92
4	GBM	0.10	0.82
5	XGB	0.02	0.98
6	ANN	0.01	0.64
7	Moyenne totale	0.05	0.75



### 2.13 Gros Jointure SDP Mean 60 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b55efd898>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.54
2	Bagged Trees	0.16	0.69
3	Random Forest	0.18	0.92
4	GBM	0.12	0.83
5	XGB	0.09	0.97
6	ANN	0.03	0.52
7	Moyenne totale	0.11	0.75



### 2.14 Gros Jointure SDP Max 60 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +

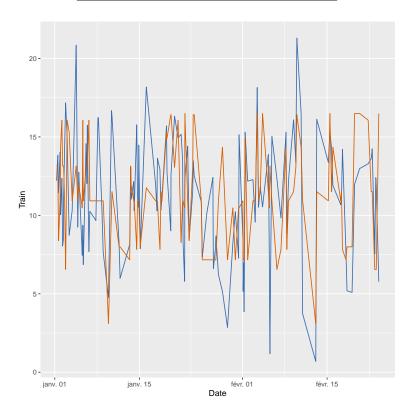
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +

## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +

## Pression_PK16 + Pression_PK18

## <environment: 0x0000024b5609d4a8>
```

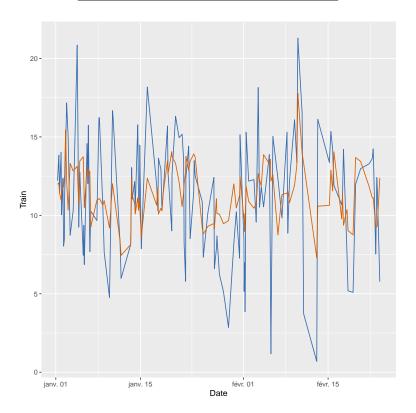
	Methode	R2_test	R2_train
1	Decision Tree	0.14	0.56
2	Bagged Trees	0.09	0.68
3	Random Forest	0.13	0.92
4	GBM	0.08	0.84
5	XGB	0.06	0.98
6	ANN	0.00	0.57
7	Moyenne totale	0.08	0.76



### 2.15 Gros Jointure SDP Median 60 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b55ef5f60>
```

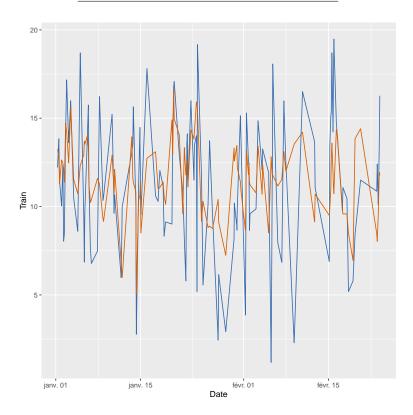
	Methode	R2_test	R2_train
1	Decision Tree	0.07	0.47
2	Bagged Trees	0.17	0.67
3	Random Forest	0.18	0.92
4	GBM	0.17	0.82
5	XGB	0.02	0.97
6	ANN	0.00	0.60
7	Moyenne totale	0.10	0.74



### 2.16 Gros Jointure SDP Mean 10 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b522ff980>
```

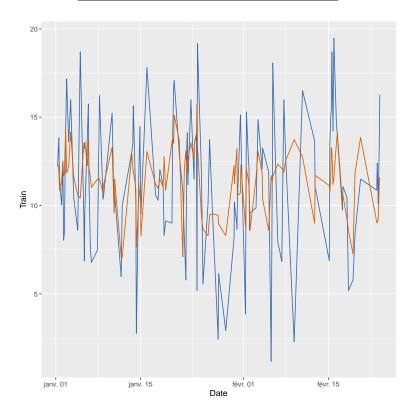
	Methode	R2_test	R2_train
1	Decision Tree	0.08	0.61
2	Bagged Trees	0.15	0.67
3	Random Forest	0.14	0.93
4	GBM	0.17	0.84
5	XGB	0.08	0.98
6	ANN	0.05	0.52
7	Moyenne totale	0.11	0.76



### 2.17 Gros Jointure SDP Max 10 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b53487a78>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.10	0.59
2	Bagged Trees	0.12	0.67
3	Random Forest	0.13	0.93
4	GBM	0.13	0.85
5	XGB	0.03	0.98
6	ANN	0.03	0.62
7	Moyenne totale	0.09	0.77



### 2.18 Gros Jointure SDP Median 10 minutes

```
## X250µm ~ Poste + Qualité + retart + dure + Débit_CV004 + Dilution_SB002 +
## Arrosage_Crible_SC003 + Dilution_HP14 + Dilution_HP15 + Dilution_HP18 +
## Dilution_HP19 + Pression_PK12 + Pression_PK13 + Pression_PK14 +
## Pression_PK16 + Pression_PK18
## <environment: 0x00000024b521ed5f0>
```

	Methode	R2_test	R2_train
1	Decision Tree	0.05	0.53
2	Bagged Trees	0.15	0.67
3	Random Forest	0.14	0.92
4	GBM	0.15	0.84
5	XGB	0.08	0.98
6	ANN	0.02	0.60
7	Moyenne totale	0.10	0.76

