SUPPORTING INFORMATION

Comprehensive Evaluation of Wet Spun Polyhydroxyalkanoate Fibres: Morphology, Crystallinity, And Thermal Properties

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Section S1: Morphological and Diameter Analysis of the PHA-Produced Fibres
Complete descriptive analyses were firstly performed for all individual fibres produced using Jamovi 2.3.28. Below are presented all parameters evaluated.

Table 1. Descriptive analyses of each PHA individual fibres produced.

Descriptive statistic		
	Fibre formulation	**Fibre diameter (um)**
N	PHBHHx	100
	PHA.A.2.3.1.1	100
	PHA.C.3.3.1.4	100
	PHA.C + PHBHHx	100
	PHA.C + PHA.A	100
Omitted	PHBHHx	0
	PHA.A.2.3.1.1	0
	PHA.C.3.3.1.4	0

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	PHA.C + PHBHHx	0
	PHA.C + PHA.A	0
Average	PHBHHx	66.1
	PHA.A.2.3.1.1	167
	PHA.C.3.3.1.4	86.3
	PHA.C + PHBHHx	32.9
	PHA.C + PHA.A	35.6
Median	PHBHHx	66.9
	PHA.A.2.3.1.1	167
	PHA.C.3.3.1.4	86.5
	PHA.C + PHBHHx	32.3
	PHA.C + PHA.A	37.1
Standard deviation	PHBHHx	4.31
	PHA.A.2.3.1.1	9.53
	PHA.C.3.3.1.4	1.74
	PHA.C + PHBHHx	2.55
	PHA.C + PHA.A	3.18
Minimum	PHBHHx	56.2
	PHA.A.2.3.1.1	151
	PHA.C.3.3.1.4	81.2
	PHA.C + PHBHHx	30.0
	PHA.C + PHA.A	30.0
Maximum	PHBHHx	74.8
	PHA.A.2.3.1.1	183
	PHA.C.3.3.1.4	89.5
	PHA.C + PHBHHx	40.2
	PHA.C + PHA.A	40.2
W Shapiro-Wilk	PHBHHx	0.966
	PHA.A.2.3.1.1	0.940
	PHA.C.3.3.1.4	0.968
	PHA.C + PHBHHx	0.766
	PHA.C + PHA.A	0.870
p Shapiro-Wilk	PHBHHx	0.011
	PHA.A.2.3.1.1	< .001
	PHA.C.3.3.1.4	0.132
	PHA.C + PHBHHx	< .001
	PHA.C + PHA.A	< .001

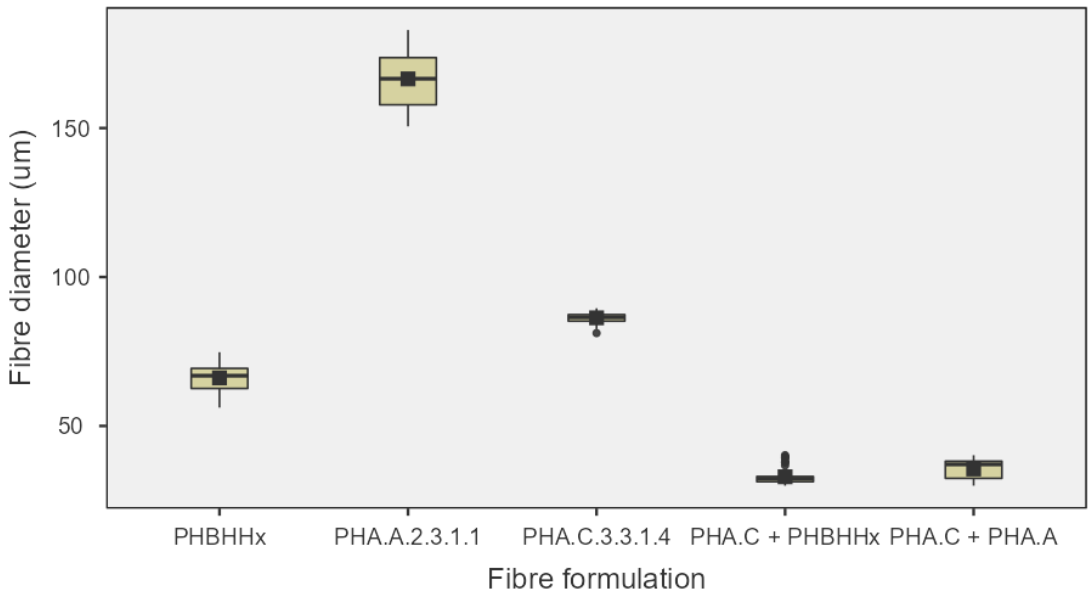

Figure 1. Distribution of individual diameters of wet-spun fibres.

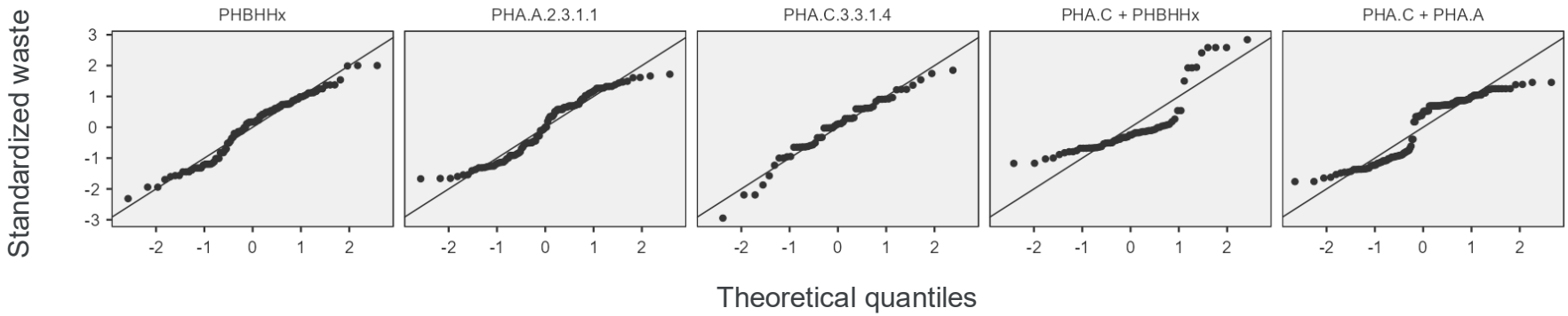

Figure 2. Distribution of diameters of individual fibres.

The statistical significance of the diameter distribution among various PHA wet-spun fibre formulations (Figure 2) was determined using the Kruskal-Wallis test with multiple comparisons. The analysis, performed using Jamovi 2.3.28, is displayed below.

Table 2. Statistical significance of the diameter distribution among various PHA wet-spun fibre formulations.

		W	p
PHBHHx	PHA.A.2.3.1.1	17.36	< .001
PHBHHx	PHA.C.3.3.1.4	14.82	< .001
PHBHHx	PHA.C + PHBHHx	-15.29	< .001
PHBHHx	PHA.C + PHA.A	-18.30	< .001
PHA.A.2.3.1.1	PHA.C.3.3.1.4	-14.82	< .001
PHA.A.2.3.1.1	PHA.C + PHBHHx	-15.29	< .001
PHA.A.2.3.1.1	PHA.C + PHA.A	-18.30	< .001
PHA.C.3.3.1.4	PHA.C + PHBHHx	-13.46	< .001
PHA.C.3.3.1.4	PHA.C + PHA.A	-15.40	< .001
PHA.C + PHBHHx	PHA.C + PHA.A	6.63	< .001

A p-value of less than 0.001 was observed for all formulations comparison.