ASSESSMENT 1

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_20		HA	GIB	H_20
INGER 15							
INGER 20							
INGER 25							
A	1.19	0.78	2.52		0.04	0.04	0.22

ASSESSMENT 2

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_20		HA	GIB	H_20
INGER 15							
INGER 20							
INGER 25							
A	1.85	1.41	3.30		0.63	0.26	1.30

ASSESSMENT 3

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_20		HA	GIB	H_20
INGER 15							
INGER 20							
INGER 25							
A	2.30	1.67	3.59		3.00	0.26	3.67

ASSESSMENT 4

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_20		HA	GIB	H_20
INGER 15							
INGER 20							
INGER 25							
A	2.37	1.70	3.74		3.85	0.37	5.96

Supplementary Figure S1. *Salix viminalis* cv. INGER – trends of shoots and roots development during all four assesments. Representative colors: lowest values – blue, average values – gray, highest values – red. A - Overall average of treatement (independent to cutting size). Detailed observations for each assessment listed bellow.

Observations for Inger—assessment 1:

- After the first 5 days, the water variants had the highest number of buds developed in all 3 sizes of cuttings.
- At 15 cm the lowest values of the number of buds developed in HA and GIB.
- Most buds in the presence of GIB were observed at the size of 20 cm cuttings.
- Most buds in the presence of HA were observed at the size of cuttings of 20 cm.
- Most buds in the presence of W were observed at the size of cuttings of 25 cm.
- Most roots developed in W at 20 and 25 cm in the first 5 days.
- Most roots developed similarly only in the presence of HA and GIB at 20 cm.
- Balanced developmental yield in the presence of HA.

Observations for Inger—assessment 2:

- If the willow comes into contact with the HA, the cuttings must be cut to a size of 25 cm.
- If there is GIB in the soil or water used for irrigation, the cuttings should be 15 cm in size.
- Willow in water gives developed best yield at the size of 20 cm cuttings.
- The largest 25 cm cuttings produced the most roots in the water, twice as many as in the presence of HA.
- Most HA roots were observed in cuttings measuring 20 cm.
- In 15 cm cuttings, no roots developed in the HA and GIB variants, but only in those with water and in relatively small numbers.
- * The treatment with the best developmental characteristics was considered to be the one with average values.
- The fewest buds were evaluated in the HA variants and the most in the water variants.
- Most buds and most roots developed only with water.
- The fewest roots developed in the GIB variants and the most in the water-only variants.
- The fewest buds developed in the presence of HA and the fewest roots in the presence of GIB.
- The most balanced buds development was observed in GIB and HA roots.

Observations for Inger—assessment 3:

- If the willow is in contact with HA, the cuttings should be cut to a size of 20 cm to ensure maximum bud development.
- If the willow is in contact with GIB, the cuttings should be cut to a size of 15 cm to ensure maximum bud development.
- If the willow is in contact with W, the cuttings should be cut to a size of 20 cm to ensure maximum bud development.
- The size of 25 cm for cuttings did not favor the development of an optimal yield of buds.
- Fewest buds at HA and most at W.
- Most buds and roots in W.
- The fewest roots in GIB and the most in W.
- The fewest buds in HA and the fewest roots in GIB
- The most balanced yield for the development of buds in GIB and the development of roots in HA.

Observations for Inger—assessment 4:

- If the willow is in contact with HA, the cuttings should be cut to a size of 25 cm to ensure maximum bud development.
- If the willow is in contact with GIB, the cuttings should be cut to a size of 15 cm to ensure maximum bud development.

- If the willow is in contact with W, the cuttings should be cut to a size of 20 cm to ensure maximum bud development.
- Fewer buds in GIB and most in W.
- Most buds and roots in W.
- The fewest roots in GIB and the most in W.
- 20 cm cuttings produced the most roots in HA.
- The most balanced growth yield of bud and root development was observed in the variants with HA.
- Most roots of the water variants product cuttings of 25 cm.
- The fewest roots were in contact with GIB, with a better yield of 20 cm.
- The most balanced values (average values) of the number of roots were observed at the size of 15 cm and in contact with HA, at 20 cm with W (water), and 25 cm in contact with HA.

ASSESSMENT 1

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_2O		HA	GIB	H_2O
TORDIS 15							
TORDIS 20							
TORDIS 25							
A	3.19	1.74	4.07		0.22	0.45	0.89

ASSESSMENT 2

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_2O		HA	GIB	H_2O
TORDIS 15							
TORDIS 20							
TORDIS 25							
A	4.03	2.19	5.56		1.37	0.63	4.08

ASSESSMENT 3

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_2O		HA	GIB	H_2O
TORDIS 15							
TORDIS 20							
TORDIS 25							
A	4.44	2.26	5.89		7.37	0.93	7.70

ASSESSMENT 4

	SHOOTS				ROOTS		
Treatment	HA	GIB	H_2O		HA	GIB	H_2O
TORDIS 15							
TORDIS 20							
TORDIS 25							
A	4.63	1.85	6.04		16.22	0.89	11.04

Supplementary Figure S2. *Salix viminalis* cv. TORDIS – trends of shoots and roots development during all four assesments. Representative colors: lowest values – blue, average values – gray, highest values – red. A - Overall average of treatement (independent to cutting size). Detailed observations for each assessment listed bellow.

Observations for Tordis—assessment 1:

- Most buds in the presence of HA were observed at the size of cuttings of 25 cm.
- Most buds in the presence of GIB were observed at the size of cuttings of 15 cm.
- Most buds in the presence of W were observed at the size of 20 cm cuttings.
- Most W-water roots produced 25 cm cuttings.
- Most of the few roots in HA produced 20 cm cuttings.
- The most balanced values (average values) in GIB at the size of cuttings of 15 cm.
- The fewest roots in water-W produced 15 cm cuttings.
- Most of the roots in HA produced 15 cm cuttings.
- The largest 25 cm cuttings produced the most roots in the water. The 15 cm shoots produced the most roots in HA and GIB. The 20 cm cuttings stimulated rhizogenesis only in the presence of water.
- Fewer buds developed in GIB, most in W.
- Most water buds and roots.
- The fewest roots in HA and many in the water.
- The most balanced yield of buds in HA and roots in GIB.

Observations for Tordis—assessment 2:

- Most buds in the presence of HA were observed at the size of cuttings of 15 cm.
- Most buds in the presence of GIB were observed at the size of cuttings of 15 and 20 cm.
- Most buds in the presence of W were observed at the size of cuttings of 25 cm.
- The most numerous roots have grown in water in all sizes.
- The fewest roots in GIB, with a yield higher than the size of 15 cm.
- The most balanced development of the roots was observed in HA in all sizes of cuttings.
- Fewer buds in GIB, most in W.
- The most balanced yield for buds and roots was at HA.
- Most buds and roots in water.

Observations for Tordis—assessment 3:

- Most buds in the presence of HA were observed at the size of cuttings of 15 cm.
- Most buds in the presence of GIB were observed at the size of 20 cm cuttings.
- Most buds in the presence of W were observed at the size of cuttings of 25 cm.
- Most roots in HA at 25 cm
- Most roots in W at 20 cm
- At 20 cm in GIB, callus occurred, weak roots visible at 15 cm and more visible at 25 cm together with callus.
- The most balanced development of roots and buds in HA.
- Least roots in GIB most in water.
- The fewest shoots and roots of GIB most in the water.
- Most buds and roots in water.

Observations for Tordis—assessment 4:

- Most buds in the presence of HA were observed at the size of cuttings of 25 cm.
- Most buds in the presence of GIB were observed at the size of 25 cm cuttings.
- Most buds in the presence of W were observed at the size of 20 cm cuttings.
- Most roots at HA in all sizes of cuttings.
- GIBs activated the 20 cm pruning protection system and produced excess callus. At the other dimensions, the fewest roots are registered.

- The most normal values of the number of roots were observed in the water variants.
- The highest values of the number of buds and shoots were observed in the water variants. The lowest is in GIB.
- The balanced bud development yield was in the HA variants.