

Insect Netting

Our Guide to Selecting the Best Insect Netting
Through Form, Fit & Function



ACADIAN
INDUSTRIAL TEXTILES

Insect Netting: A Critical Part of an Integrated Pest Management (IPM) Program

Program success is achieved by:

Having

- Light (Measured by PAR)
- Air Flow between and around each plant

Preventing

- Disease
- Mold
- Pests

Insect Netting supports your IPM program by providing:

- Physical barrier to pests in air or on the ground
- Enough circulation to prevent mold and diseases
- Adequate light transmission
- Multiple season solution in various configurations

Evaluating Form and Fit

Construction:

- # yarns warp direction (Mesh count)
- # yarns weft direction
- Reinforcement, in center and around edges

Pore Size:

- Size of openings

Material:

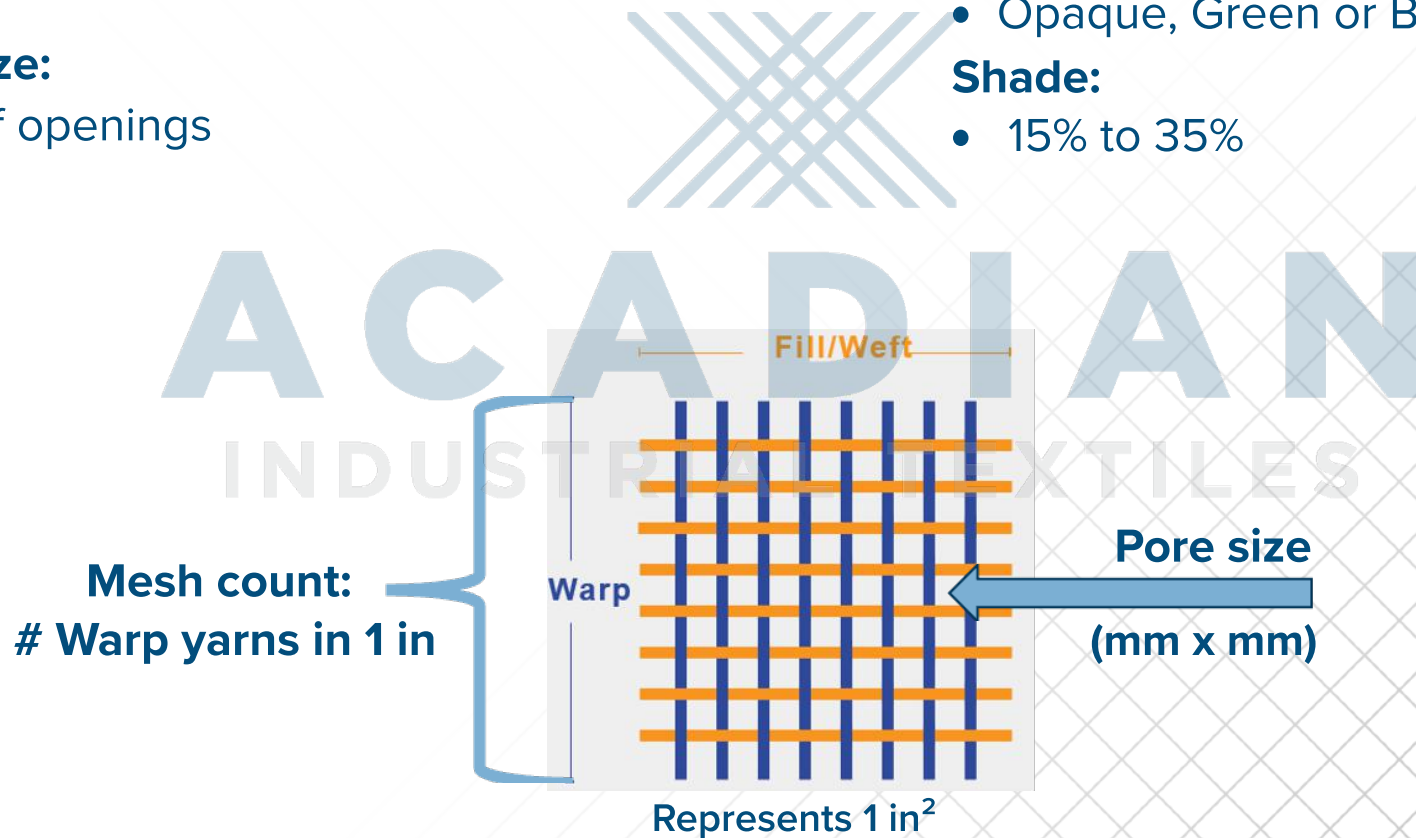
- Woven HDPE: virgin, additive UV

Colors:

- Opaque, Green or Black

Shade:

- 15% to 35%



Function: Air Flow Requirements Dictate Pore Size

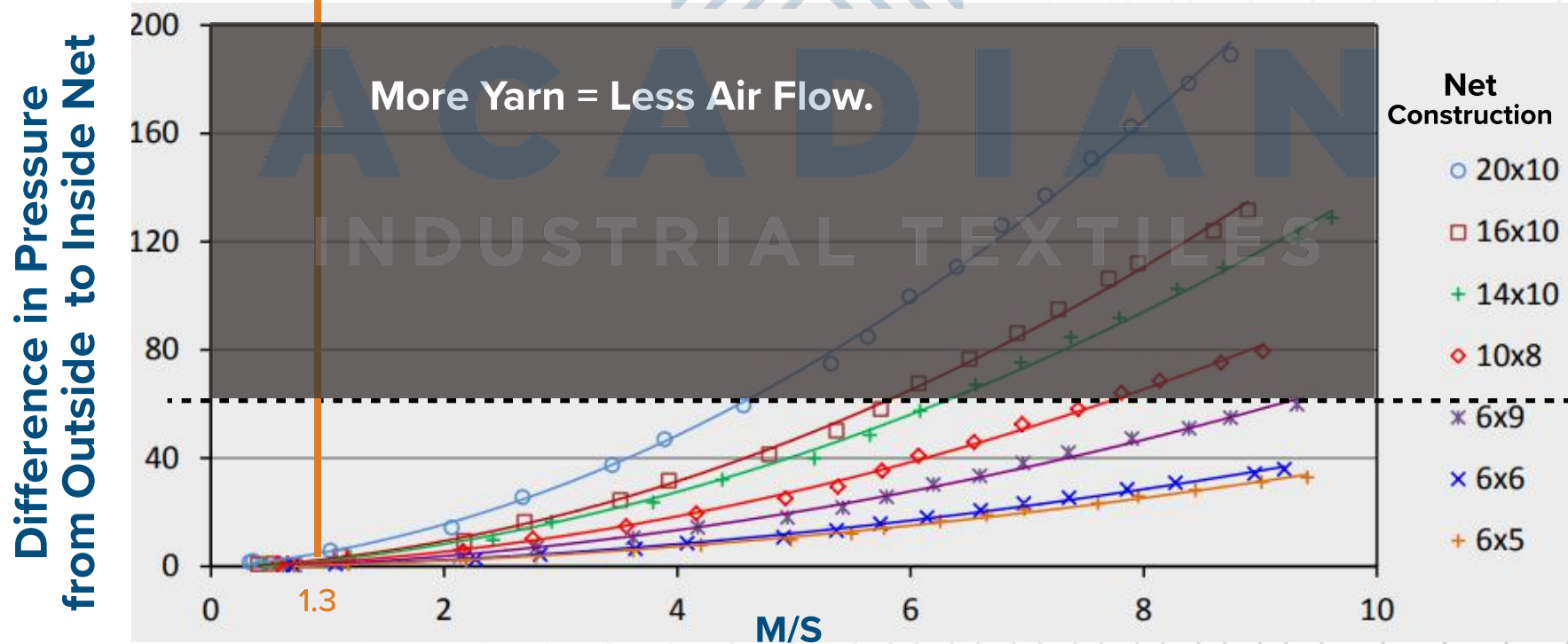
Not sure which pore/ mesh size to buy?

The answer is based on local wind conditions and air flow needs of your crops.
Small Pore Size Can Impact Crop Production Due to Low Air Flow.
(area above dotted line in chart)

“lower porosity of fine mesh nets, leads to a high static pressure drop...”

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7600595/>

Impact of wind on air flow to crops under netting by pore size



Function: Construction Reduces Pressure Change, Air Flow

- A gentle breeze (1.3 m/s or 5 km/h) can impact net covered greenhouse vent systems, creating a pressure change which thereby strains the motors.

Static Pressure impact on motors <https://rucore.libraries.rutgers.edu/rutgers-lib/47188/PDF/1/>

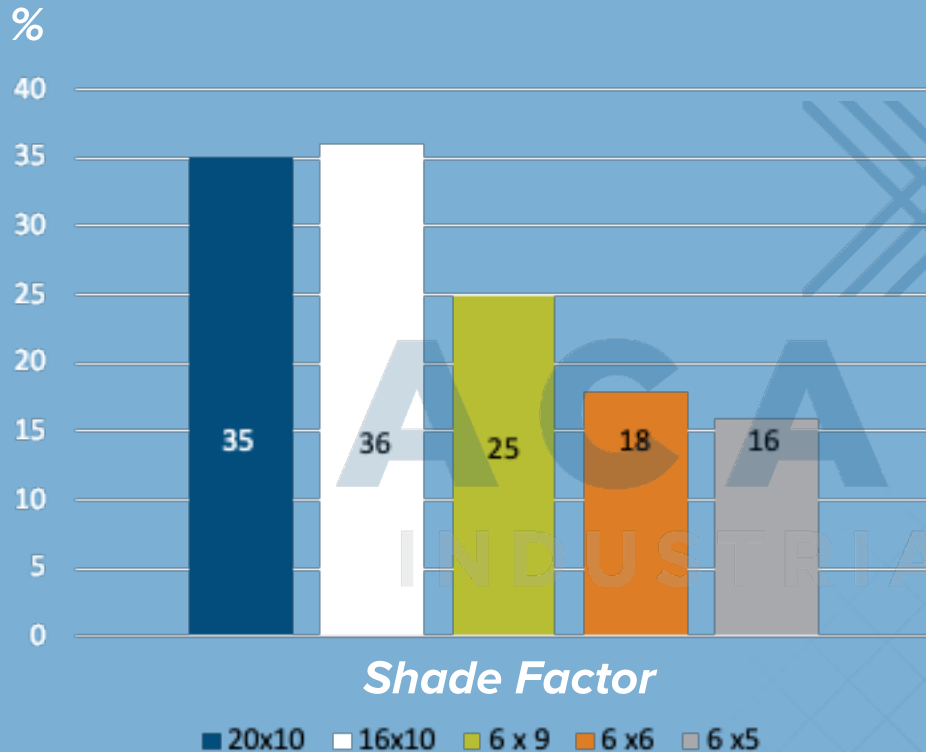
- Worried about pests being smaller than the opening on the netting?

Pore sizes bigger than the width of insect abdomen can be more effective in keeping out insects <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4883381/>

Net sizes 6 x 9 and bigger support air flow needed to keep CO² available and excess moisture away, regardless of wind speed

Construction	Yarns / 1 in sq	51 x 25	40 x 25	15 x 23	15 x 15	15 x 13
	Yarns / 1 cm sq	20 x 10	16 x 10	6 x 9	6 x 6	6 x 5
	Mesh	50	40	15	15	15
Pore Size	mm	0.27 x 0.77	0.39 x 0.77	0.83 x 1.38	1.38 x 1.38	1.38 x 1.7
Weight	gsm	137	125	106	85	79

Function: Provide Light and Shade Requirements of Crops



Shade factor is the % of visible light blocked,
it doesn't indicate if the light that goes through provides what is needed,
PAR.

Insect netting passes or blocks key parts of the light spectrum, called PAR
(Photosynthetically Active Radiation)
PAR is measured by transmission %
(See [Knowledge Bank](#))

“1% [too little] radiation represents
1% [drop in] production”

Acadian Insect Netting Offerings

Designed and tested to meet the needs of growers and their crops

Construction ISO 7211-2	Metric (reinforcement)	20 x10	16x10	6 x 9	6 x6	6 x5
	Imperial	50 x 25	41 x 25	15 x 23	15 x 15	15 x 13
Mesh	# Warp Threads	50	40	15	15	15
Pore size	mm	0.27 x 0.77	0.39 x 0.77	0.83 x 1.38	1.38 x 1.38	1.38 x 1.7
Weight ISO 3801-2	gsm	137	118.67	106	85	79
Tensile Strength (N) ISO 13934-1	Warp	1100	900	560	540	540
	Reinforcement	External 1800	External 1200	Central 1200	Central 1100	Central 1100
	Weft	570	600	740	550	440
Elongation (%) ISO 13934-1	Warp	28	25	27	22	22
	Reinforcement	External 30	External 30	Central 27	Central 27	Central 27
	Weft	21	12	21	18	18
Air Permiability / Porosity ASTM D737	%	42	49	61	68	71
~ Pressure Drop at 8 mph	Pa drop	42	35	8	5	4
Shade AATCC TM 148	%	35	33	25	18	16
Light Transmission PAR	%	89.9	90.3	92	95	95.4
% PAR light that goes through net material						

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For a more detailed presentation on our Insect Netting Study, done in conjunction with the University of Almiria, please click here.